



Processions in the Ancient Americas

Susan Toby Evans, editor

Occasional Papers in Anthropology

Department of Anthropology
Penn State University

No. 33

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cover motifs adapted from Mural 2, Room 2, Tepantitla compound, Teotihuacan (Mexico)

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About the series

Penn State's *Occasional Papers in Anthropology* series was established in 1965 with an enduringly valuable research report by William Sanders (at left, in the 1960s Teotihuacan Valley), *Cultural Ecology of the Teotihuacan Valley*, or, as we now know it, <http://journals.psu.edu/opa/article/view/59754/59501>. This work and others originally published on paper for the series are now available on an internet journal platform, <https://journals.psu.edu/opa/index>, recently developed by Penn State University Libraries. Our university shares in the global effort to publish cultural resources as freely as is possible. President Barack Obama in 2012 prioritized timely open access to research results funded by the United States government, and scholars are responding enthusiastically, quickly seeing the great advantages of a shared digital data bank. Web sites for distribution of research reports have been established by publishers, research institutions, and academic departments, and present a practical way to distribute research results and curate databases, at least as long as the institutional host (here, Penn State University) exists.

And cultural trends follow – and prompt -- this kind of sharing. Increasingly, the net has become a primary resource for research. Free internet access to many scholarly articles and books is commonly available through academic servers, for use by all members of the academic community, including undergraduates, who, as native-speakers-of-digital are devoted to their tablet-based knowledge systems. This increasing dependence on the tablet and web has serious disadvantages if misused, but the advantages for scholars are terrific, not just for publication but also for increased clarity in presenting their work. In an online open access publication, the scholar may include as many publication-quality images as are appropriate and shareable, including those available for common use on various websites.

Generous illustration greatly enriches our understanding of the analyses and interpretations of any data set, and this potential will be increasingly realized in publications of this *Occasional Papers* series. In the case of No. 33, *Processions in the Ancient Americas*, we are pleased to present these research papers for their styles of presentation as well as for their solid analyses and thought-provoking interpretations and conclusions. This volume is dedicated to William Sanders for his great work as a cultural ecologist, in documenting – and curating -- archaeological settlement systems in the Basin of Mexico, particularly in the Teotihuacan Valley.

Susan Toby Evans, Series Editor

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Processions in the Ancient Americas.

- Editor's Preface Editor's Preface to *Processions in the Ancient Americas*
Susan Toby Evans
- Chapter One Processions, Ritual Movements, and the Ongoing Production of
Pre-Columbian Societies, with a Perspective from Tiwanaku
John W. Janusek
- Chapter Two Processional Ceremonies in the
Formative Period Chiapas Central Depression, Chiapas, Mexico
Timothy Sullivan
- Chapter Three Location and Orientation of Teotihuacan, Mexico:
Water Worship and Processional Space
Susan Toby Evans
- Chapter Four Ritual Processions in Ancient Tollan: The Legacy in Stone
Elizabeth Jiménez García and Robert H. Cobean
- Chapter Five Processions and Aztec State Rituals in the Landscape of the Valley of Mexico
Johanna Broda

Related publication: *Implorar con los pies: Procesiones en Mesoamerica*
(*To Pray with the Feet: Processions in Mesoamerica*)
a special section of *Arqueología Mexicana*, Vol. 22, 2015

[Las procesiones en Mesoamérica](#)

Susan Toby Evans

[La Ofrenda 4 de La Venta, Tabasco](#)

Ann Cyphers

[Procesiones en Oaxaca](#)

Ernesto González Licón

[Procesiones en Teotihuacan. Agua y Tierra](#)

Susan Toby Evans

[Desplazamiento ritual en el Occidente de México](#)

Ben A. Nelson

[Procesiones y sacbeob de las Tierras Bajas del norte en el Clásico maya](#)

Traci Ardren

[Procesiones esculpidas en la antigua Tollan](#)

Elizabeth Jiménez García and Robert H. Cobean

[Procesiones en Chichén Itzá](#)

Rafael Cobos and Lilia Fernández Souza

[Tenochtitlan, centro de procesiones y peregrinaciones en la Cuenca de México](#)

Johanna Broda

Editor's Preface to *Processions in the Ancient Americas*

This volume presents research papers exploring the role of processions in shaping the built environment in four cultural regions of ancient Mexico (Formative Chiapas, Early Classic Teotihuacan Valley, Early Postclassic Tula Valley, and Late Postclassic Basin of Mexico), and one, Tiwanaku, from ancient Andean South America. Examining the role of processions in particular landscapes involves the application of cultural ecological principles to ritual life, and the results are significant.

In each case, as was prevalent all over the ancient Americas, ritual life was experienced almost exclusively out-of-doors and processions were an essential means of connecting with the living landscape. The outdoor ritual settings of ancient American cultures stand in strong contrast to those of many ancient agrarian cultures of the Old World, where most rituals were held in enclosed spaces. The broad distinction between cultures with indoor or outdoor ritual life is essential to understanding an archaeological culture's rituals and how

ceremonial architecture and landscape modifications work toward promoting the participant's interaction with the visible landscape; it is mediated but not masked by the built environment. And because ancient Americans venerated that visible landscape and regarded it as animated by a lambent spiritual energy, processions would connect them to the energy in the mountains and mountain effigies around them and the causeways beneath their feet.

Processions – the orderly progression of lines of people, moving toward shared destinations with shared, often sacred intentions -- represent a possibly universal human experience, encompassing a wide range of cultural meanings, piety and communal action foremost among them. Even in modern secularized societies, we are accustomed to observing and sometimes even participating in them. We understand that participation signals a willingness to submit to an authority, to demonstrate an attitude – and it is with good reason that participation in a procession has been termed “praying with your feet.”

Today, processions are often politically motivated, such as protests or demonstrations against economic inequality, climate change, or government policy (**Figure 1**). Nonetheless, they are communal rites and generate solidarity.



Figure 1. In Washington DC on March 27, 1982, a procession of concerned citizens protested U.S. foreign policy. (photo by S.T. Evans)

Processions may celebrate rites of increase and rites of passage, such as the example John Janusek presents in this volume, of school children visiting Washington DC, filing respectfully past the Constitution. Many processions are restricted to members of organized groups, or families, lineages, age sets, gender, and other cohorts. In traditional societies, the gender, relative rank and status of any individual is well known to all – falling into line in a procession would be a familiar reinforcement of society's rankings and rules of precedence.

Processions also serve latent functions. Even without an overt statement that participation demonstrates loyalty to the event or cause, those in charge may use this as a test of group solidarity. Furthermore, while individuals may participate from a sincere belief in the importance of the ceremony, they may also enjoy being part of the spectacle and the sense of transcendence of individual consciousness through the sensory experience of synchronized movements to the rhythms of music. Rituals like processions may feed many sensory appetites, even for degradation and pain. In ancient agrarian societies, those in processions experienced a fusion of natural, social, and sacred realms as they moved with their co-worshippers through a built environment planned to harness the forces of nature to human use.

In traditional societies, faith was likely to have been sincere, if not fervent. This point may escape some modern scholars. We look for the adaptive value of cultural practices and can readily identify economic, political, and social functions, but when we come to ideology, we find it difficult to adopt an emic perspective, even though its explanatory power is

considerable. To their participants, processions, like other ceremonies, were thought to have an adaptive value beyond that of social or political solidarity. Propitiating and venerating the rain gods by procession was seen as another means of controlling the forces of nature, different than, say, digging an irrigation canal, but in the emic view no less effective.

In the regions under consideration here, this effort at manipulation of nature's forces is understandable, given closely juxtaposed, radically divergent ecozones being actively shaped by earthquakes, volcanic activity, torrential storms and desiccating droughts. This no doubt promoted belief in the animation of the natural environment, widespread in the Americas. These regions are bounded by mountains, and the relationship between the mountains and storm systems was closely observed and creatively explained. As if to form human-scale models of their surroundings so as to better control natural forces, important cultural centers were planned and built to mimic landscape features so that the people could use processions in their rituals designed to placate the forces of nature.

These forces were often anthropomorphized in the ancient world, though in Mesoamerica depictions of deities as humans are perhaps best understood as congeries of features applied to various frameworks, some of them human-like. However expressed, once these plausible models of the characteristics of forces of nature have been developed, these "deities" become the focus of what humans imagine are the most effective ways of placating, even manipulating them.

Processions, like other rituals, serve as display to supplicate the divine, and the

sincerity of this supplication is expressed through proper adherence to rites. This is a form of impression management operating at several levels: influencing the gods with

Evidence

Scholarship pertaining to the role of processions in the Americas has until now largely concerned ethnographic or post-Conquest Colonial period cultures. In contrast, the papers here represent a uniquely focused approach to this important phenomenon in the complex societies of pre-Columbian Mesoamerica and the Andes. To reconstruct an extinct society's belief systems, archaeologists and ethnohistorians bring together several resources.

A basic source of evidence is the natural environment. Understanding the natural environmental context is the foundation of culture-ecological analysis, essential to developing a meaningful reconstruction of cultural patterns, particularly those as idiosyncratic as rituals. This culture-ecological record includes, of course, the archaeological sites and settlement patterns framed within landscape features and horizon markers. To appreciate rituals we must know the region's limits and potential for cultural adaptation: climate, soil, and resources. Tim Sullivan, this volume, shows how site plans from Chiapas show changing possibilities for processions.

The ethnographic record is important for archaeological interpretation in the Americas. None of us is so naïve as to assume a simple translation, a flawless application of the direct historical approach, but we must consider the important role of deeply rooted traditions, particularly in regions where the natural environment plays an important role in shaping perceptions of changing seasons. There, important horizon

the elaboration of human effort, and assuring state authorities (including priests) of society's conformance to authority.

markers survive while books of ancient knowledge can be burned. The landscape carries basic elements of the stories people tell their children to explain the wider world, and the skills they teach them to survive. Some farming practices that are still used today have a long indigenous history. The persistence of folk traditions is particularly strong when concerning matters of life and death: the timely onset of the rains, for example.

The ethnohistorical record is also fraught with problems as a source for interpreting the cultures of the very societies it purports to describe, much less those of possibly ancestral groups. And in spite of the problems, these descriptions are too rich and their value too great to ignore, as Johanna Broda's paper in this volume makes clear, using Duran's 16th century description of the procession of Aztec lords on their yearly pilgrimage to Mt. Tlaloc.

The culture's graphic and plastic representations as well as built environment itself lend themselves to art-historical interpretations. Also from the Central Highlands of Mexico, Tula's bas-reliefs and colonnaded halls seem to illustrate processions and give them spatial scope, as Elizabeth Jiménez and Robert Cobean discuss in this volume. Teotihuacan's legacy includes graphic depictions in murals and on ceramics that strongly suggest figures moving in line. In my essay, I explore how the site's avenues and monuments set up processional scenarios resonating within the Teotihuacan Valley.

Processions in the Ancient Americas: Symposia and Publications

This volume on processions has roots in my long-term interest in the great city of Teotihuacan, my field research in its setting, the Teotihuacan Valley, and research into Teotihuacan materials, at Dumbarton Oaks (Washington D.C.). Jeff Quilter, Director of Pre-Columbian Studies 1995-2005, suggested that I prepare the new catalogue of Mexican art in Dumbarton Oaks's Bliss Collection (Evans [ed.] 2010). In studying the Teotihuacan mural ("Net Jaguar" Mural 8 from the Tepantitla compound, Room 12) for the catalogue, I realized that its water temple was a logical ancestor of San Juan Teotihuacan's Catholic church, with its enclosure of one of the springs.

I had been there years ago as part of a group of graduate students of William Sanders. We were researching dissertations on various cultural-ecological topics pertaining to the Teotihuacan Valley and Basin of Mexico. Bill took us to the churchyard to show how powerful interests appropriate key resources.

Native and Spanish practices suggest that the church, founded in 1548, overlies an Aztec period water temple, which would in turn overlie an Early Classic Teotihuacan temple. Its portrait in the Tepantitla mural is one of several dozen similar scenes, the eight in Room 12 presenting a procession of net-jaguars, headed toward the water temples and toward the setting sun in late spring, at the onset of the rainy season. Cultural ecology and art history together could translate the message of the mural, and perhaps also untangle the reasoning behind Teotihuacan's distinctive orientation and gridded plan.

Yet, in spite of the obvious importance of processions in Teotihuacan

and in the cultures of the ancient Americas, there had been no in-depth treatments of the topic. The first step to understanding such processions would be to gather interested scholars together to share research and ideas. The next Director of Pre-Columbian Studies, Joanne Pillsbury, encouraged me to organize symposia on the topic.

The first symposium was held in April 2014 at the Society for American Archaeology meetings (Evans and Nair 2014a), and the second, in October 2014 at Dumbarton Oaks (Evans and Nair 2014b). The topics in the two symposia ranged over Mesoamerica and Andean and coastal South America, and covered several thousand years of pre-Columbian culture history. In this volume, John Janusek reviews these contributions in an introductory and overview essay.

Joanne Pillsbury's successor, Mary Pye, continued support for the processions symposium at Dumbarton Oaks in 2014, as did the Pre-Columbian Studies Senior Fellows, with particular encouragement from Barbara Arroyo, Leonardo López Luján, and Chip Stanish, and further suggestions from Tom Cummins, Ken Hirth, John Verano, and Gary Urton. The Dumbarton Oaks symposium of October 2014 was highlighted by a witty and erudite etymological introduction by the Director of Dumbarton Oaks, Jan Ziolkowski. A special exhibition at the Dumbarton Oaks library, "Standing on Ceremony" presented books and art related to processions, plazas, and pathways, organized by Bridget Gazzo, Librarian, Pre-Columbian Studies. The symposium's complicated logistics were ably coordinated by Kelly McKenna, while Kathy Sparkes and Sara Taylor of the

Publications Office gave valuable advice and inspired appreciation of their high standards of print publication.

At the suggestion of Leonardo López Luján, the processions topic was featured in the popular Mexican magazine *Arqueología Mexicana*. Four articles related to symposia topics were included among the short pieces in *Implorar con los pies: Procesiones en Mesoamerica*, a special section of the magazine (Evans 2015 [ed.]). It was a privilege to share processions research with this popular journal's large readership, and I appreciate the generosity of María Nieves Noriega de Autrey, General Director, in commissioning this special section and in making the articles available here, with hyperlinks in the Table of Contents (see p. iii), provided by Enrique Vela.

In contrast to these short treatments, some of the symposia presentations were developed into extended research papers, and some were gathered into this publication. The external review by a distinguished scholar was positive, recommending publication. Under ordinary circumstances, this book would have first been published in a print edition by an academic publisher (possibly as early as 2017), followed, perhaps two years later, by digital access. But through a fortuitous set

of circumstances I was able to take advantage of the opportunity to publish online in my academic department's research series; *OPA* No. 33 includes five research papers from the symposia.

This book has been formulated as printer-friendly, but you are almost certainly reading it on a screen, and appreciate the e-format's ability to share research results much more quickly, in an accessible and readable format, extensively illustrated. I do regret the absence of that "new book smell" and the particular aesthetic pleasure of typeface on paper, but the advantages balance the losses.

This volume continues the work of the *Occasional Papers in Anthropology* series from Penn State, established in 1965 by William T. Sanders and dedicated to the dissemination of research results.

I appreciate the support of the Department of Anthropology (particularly George Milner, Doug Kennett, Betty Blair, and Robin Kephart), and the help of Mark Mattson and Linda Friend (Publishing and Curation Services, Penn State Libraries). Thanks also to Molly Allan and David Webster.

Susan Toby Evans

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Evans, Susan Toby and Stella Nair, symposiarchs

2014a Processional Rituals in the Americas, a symposium presented at the 79th Annual Meeting of the Society for American Archaeology, Austin.

2014b Processions in the Ancient Americas: Approaches and Perspectives, a symposium presented at Dumbarton Oaks, Pre-Columbian Studies.

Processions, Ritual Movements, and the Ongoing Production of Pre-Columbian Societies, with a Perspective from Tiwanaku

John Wayne Janusek

What are the most important things that a society produces? How are they produced?

What is meant by the concept of ‘procession’? How is it different from day-to-day walking? Can one person ‘process’ or is procession strictly a communal act? How does procession differ from a pilgrimage to Mecca, Santiago de Compostela, or Mount Qullqipunku in Peru? These questions emerged at two symposia held in 2014, at the Society for American Archaeology and at Dumbarton Oaks (Evans and Nair 2014a, 2014b). These were the first systematic examinations of the topic of ritual processions by pre-Columbianists, and in providing the SAA symposium with a perspective from Tiwanaku, Bolivia (Janusek 2014a) and the D.O. symposium with an overview discussion (Janusek 2014b), I identified several common threads among the papers.

Here I continue this comparative exploration of core theoretical questions intertwined with the symposia theme, while pointing toward potential avenues of inquiry not centrally addressed by its papers, and contributing my own perspective on processions from Tiwanaku. I will return to the core questions (including the one about a society’s most important products) in due course, but offer this byte: I consider

processions particularly structured and intensely disciplined forms of ritual movement that reciprocally create and are constituted by particularly charged places and things.

I introduce this paper with a case study focused on the National Archives in Washington, DC. Jeffrey Meyer (2001:76-98) considers the National Archives the most important ‘national’ temple for the U.S. Indeed, it houses some of the nation’s most important documents, including the three that have become the most representative of its moral and political constitution: the Bill of Rights, the Declaration of Independence, and that increasingly fraught document, the Constitution. These are no longer simply documents signed to endorse political agreements made in the 18th century; as Meyer points out, they have become powerful objects of sacred scripture in their own right.

Every spring, traffic swells in Washington, D.C., as hundreds of buses, each carrying dozens of ‘twens’ from some local part of the country, lurch from one national monument to the next to provide their cargo a firsthand experience of the

capital's monuments. Coming to Washington, D.C, as a junior high / middle school student is not obligatory, and is likely limited to the relatively well-off. I was fortunate enough to take this journey as an eighth grade student in 1977. It constitutes a pilgrimage, and at least for many, a key rite of passage on the way to becoming a fully responsible U.S. citizen.

I visited the National Archives for the first time as an adult while I was a Dumbarton Oaks Fellow in 2008-2009. I was struck with the experience of this place, by the way that people moved through the building and how that movement shifted gears as they moved through its central hall. The building's various hallways house all kinds of fascinating documents and create spaces in which one can move more or less randomly. Yet they funnel each person into a central hall where relatively 'randomized' movement becomes a controlled, steady procession past what by all accounts are now considered *a trinity* of sacred texts.

Everything about the space, the marble architecture, the room's dim lighting, the arrangement of the texts around the building's central icon -- the Constitution -- and the presence of armed guards, *constructs this room as sacred space*. People -- even those squirrely tweens -- move slowly, quietly, reverently in one direction, clockwise, to apprehend these iconic documents.

Returning to the opening question: The most important things a community creates are particular sorts of persons, what Marcel Mauss called 'social personae,' or what Althusser (2014) and others (Foucault 1995), in a Marxist perspective, considered political subjects. Coming-of-age pilgrimage to Washington, D.C.'s monuments and the National Archives in

particular constitutes a powerful moment that seeks to produce particular sorts of persons and subjects; loyal, 'free,' moral, independent, law-abiding, enlightened U.S. citizens. But the stakes are high, and the process routinely fails. Daily newsfeeds froth with poignant accounts of those failures, presumably 'normal' citizens (kept to themselves, mostly) who suddenly embody those 'subhuman' qualities that an upstanding U.S. citizen precisely does not represent: in the political spectrum, anarchists, Nazis, communists, socialists, and now, terrorists. Or in an ontological vein, there is a danger of producing 'crazies' who think stones and springs are alive, or worse (gasp!), *in charge of our daily well-being!* Although many pre-Columbian ontologies reinforced precisely such perspectives, it is not the dominant directive for a pragmatic, reasoning, adult U.S. citizen. U.S. kids can 'play' at animacy -- with dolls, trucks, pet rocks, etc. (Gell 1998) -- but to become a morally responsible 'social person' and fully inhabited 'political subject,' one better learn to shove those tendencies deep into one's subconscious - from where, of course, they spontaneously surface as soon as one's car breaks down or computer crashes.

The danger of failing to produce the proper sorts of persons and subjects is, I argue, a core reason why processions, and ritual movements generally, are so intensely structured and disciplined. Rituals are central to every human society, and the particularly valued attitudes, movements, gestures, and spaces that constitute those rituals are crucial to the ongoing production and transformation of that society via the production of particular sorts of persons / subjects and the places they inhabit.

Especially when they constitute key moments of the most celebrated ritual-political events in a society, such as the monumental, recurring U.S. presidential procession from the White House to the Capitol on Inauguration Day, or even the more ‘anarchic,’ sensual, counter-cultural, but altogether ‘effervescent’ sequences of pragmatic engagements and ritual acts that constitute a successful Burning Man event (Vranich 2016).

Unlike the U.S. and other Western nations, pre-Columbian political communities tended to produce subjects that encountered a world of dynamic, transacting, even fluid non-human beings; mountain peaks, caves, winds, springs, and so forth. Via ritual acts, communities strategically foreclosed an experience of ‘nature’ as a realm resolutely divided from that of humans. Many term this way of being-in-the-world a relational ontology. Producing such an ontology was undoubtedly as risky as producing what Descola (1996) categorizes as a Western ‘naturalist’ ontology, a world that most people reading this paper routinely experience, in which divided realms of ‘humans’ and ‘nature’ intersect only strategically in acts of either 1) transformation for human use and real estate, or 2) protection and romantic appreciation. These positions even roughly define the platforms of opposing political parties. Yet both positions and parties toe the fundamental, unquestioned line that humans and nature occupy separate realms (Sahlins 2008). Unlike many pre-Columbian societies, Western actions and spaces tend to ‘blackbox,’ shove to the background of daily awareness, the intricate material and historical linkages that intricately tie, say, the flow of a particular

river to the city that has grown for decades and continues to thrive on its shores.

I am skeptical of these categories and the notion that an entire society is beholden to a particular ‘ontology.’ The term ‘ontology’ has become nearly as essentialized in 2016 as the term ‘culture’ was in Ruth Benedict’s *Patterns of Culture*, published in 1934, and such essentialization is the product of politicized academic discourse. People in any city or community constantly deal with a barrage of ideas, languages, technologies, and ways of being in the world. Politically-driven ritual acts carve through such diversity to opportunistically define particular segments as ‘a people’ with common practices, values, and goals. Highland Aymara-speaking communities have always thrived among diverse landscapes, societies, and languages. Yet the term ‘Aymara’ is the essentialized product of Spanish colonization, republican nationalism, and more recent movements valorizing indigeneity in the highland Andes, and specifically Bolivia. With Evo Morales’ rise to power in the early 2000’s and following his presidency since 2005, those communities found a political voice and empowered position in national and global geopolitics. This empowerment is continually manifested in recurring annual ritual processions, including the spectacular festival of Gran Poder that occurs every June in La Paz, or the countless danced, marched, and paraded processions that occur in countless towns and rural communities to celebrate recurring local and national events. Key to Aymara empowerment was the coopting of recently created but presumably ‘ancient’ rituals that involve annual pilgrimage to Tiwanaku and, now, many other ‘ancient’ sites on June 21, to witness

the austral winter solstice sunrise (Sammels 2011). Each ritual begins as a solemn group procession at the crack of dawn to the place where a *wilancha*, or llama blood sacrifice, will occur just as the sun rises over the eastern horizon. Each seeks to draw as many celebrants as possible, in some cases fueled by New Age-inspired explanations and the ‘ecological harmony’ that ancient Aymara communities sought with the world. Yet this ritual, now nationally promoted as Aymara New Year, and centered on calling the sun back home for the austral summer solstice (Willka Kuti), is politically inscribed as an ancient ritual exactly 5024 years old.

In the following discussion, I reign in some key concepts, most importantly the concept of procession. Next I distill key contributions of the 2014 processions

Processions and Ritual Movement

Most fundamental, what is a *procession*? Flurries of emails among Dumbarton Oaks participants prior to the symposium, and comments by symposia attendees, submitted this question to lively scrutiny. The Oxford English Dictionary (OED) defines procession as ‘the action of a body of people going or marching along in orderly succession in a formal or ceremonial way.’ On the eve of the symposium, Gary Urton (pers. com. 2014) defined it as, ‘a bunch of people walking together with a common objective.’ I stand by Urton’s spontaneous definition. He scribbled it on a napkin and I presented a photo of that napkin during my discussion. To *process* is to move with others in an orchestrated, synchronized manner toward a common destination. Procession is a communal, structured, and directed sociospatial performance. Paradigmatic processions

include elaborate cremation rites in Bali (Geertz 1981) and the quadrennial U.S. presidential inaugural cavalcade that moves slowly, yet deliberately down Pennsylvania Avenue, from the White house to the U.S. Capitol. I then briefly address the ways in which thinking about processions and ritual movement have influenced interpretations of my own research in Tiwanaku, located at the southern edge of the Lake Titicaca Basin in the Bolivian altiplano. An emphasis on ritual movement and specifically well-ordered processions helps explain not only the spatial peculiarities of Tiwanaku’s monumental layout, but also the iconography of some of the most imposing stone personages that inhabited its core spaces. I suggest that Tiwanaku’s emergent ritual-political power was grounded in novel manners and temporalities of ritual movement, and through them, the successful recurring production of particular sorts of ritual-political subjects.

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Not all ritual movement is procession. Procession is a particular *mode* of ritual movement, one that demands *relative* corporeal discipline, spatial control, and temporal cadence; relative because what distinguishes procession varies even in a single community and must be defined as such *contextually*. Seeking a universal, ready-made definition is a futile exercise. I suggest settling on a definition that can do effective work for us in understanding and explaining the critical role of processions as modes of ritual movement in the pre-Columbian Americas, and as dynamic foci

for the production of specific sorts of subjects. Processions distinguish themselves relatively through their obsessively choreographed movements; whether linearly, from the home of a deceased to a cemetery, from a home community to a sacred peak, or circumambulatory, around a temple, a plaza, or a town; or otherwise.

If processions are a distinctive mode of ritual movement, they are relatively controlled moments of movement in more encompassing ritual events. Their controlled choreography frequently renders them particularly generative of or at least influential in cosmic intervention. Yet the spaces dedicated to ritual movement in any pre-Columbian setting often afford

possibilities for multiple modes of movement and activity. A difficult question for archaeologists is: did a particular space prioritize 'procession' over other manners of ritual (or other) movement? Several papers in the symposia concluded that archaeologically delimiting spaces of procession will be difficult. Teotihuacan's central avenue, Tula's colonnaded halls, Maya sacbeob, and routes to the Island of the Sun in the Andes, all provided spaces for multiple modes of ritual and other movement. Indeed, modes of movement may vary in a single journey. If annual pilgrimage to Mount Qullqipunku for Qoyllur Rit'i is at several points austere, highly structured (**Figure 1**), and driven by carefully selected music -- especially



Figure 1. Procession on the glacier of Qullqipunku during Qoyllur Rit'i. Photograph copyright Wolfgang Schüler 1992 (Schüler 1992:37).

while entering its primary sanctuary -- the journey back home follows a more *relaxed*, informal, festive rhythm. As a pilgrim succinctly introduced the return portion of

Ritualization

Articulating procession as a structured mode of ritual movement draws us into the deeper question, *what is ritual?* Ritual aligns itself with powerful, transcendent nonhuman features and personages. Yet it is fully steeped ‘in the world’ and thus politically engaged. To sidestep typological and essentialized understandings of ritual we need to turn an analytical lens on the discourses that construct particular actions as *ritual practices*. Ritual is a distinctive way of acting. How and when it is done draws attention. A practice is a ‘ritual’ practice by dint of its social, spatial, and temporal context, and yet what constitutes ritual is constantly being redefined in relation to changing social, spatial, and temporal contexts; ritual presents itself relationally and recursively. Catherine Bell (1992) introduced the term ‘ritualization’ to characterize the ongoing production of

Ritual movement and the Production of Human Subjects

The processions symposia and this volume innovatively turn an analytical eye on processions -- and ritual movement more generally -- as important pre-Columbian phenomena worthy of intense study. They collectively address a turn in thought regarding ritual. As a volume we focus not on the so-called ‘internal’ or cognitive dimensions of ritual movement, though we may note features of the ‘belief systems’ associated with ritual movement. Excellent studies indicate that religious ‘belief,’ while

the pilgrimage (Sallnow 1987:233):
‘Now we can get drunk.’

particular types of human actions as ritual practices. ‘Ritualization’ draws attention to the contextualization that affords any act, gesture, movement, or material a privileged place or transcendent value in the scheme of human practice. In this sense, *ritual is as ritual does*; it is a ‘way of acting that sets itself off from other ways of acting by virtue of the way in which it does what it does’ (Bell 1992:140). Yet its specific way of doing draws participants toward ‘ultimate sources of power,’ often a power conferred by non-human agents. In the pre-Columbian Americas, this generally refers not to otiose deities detached from worldly human projects and well-being, and yet judging them from on high. It refers to animate celestial bodies and landscape features that are in constant transaction with humans: a *living* world of dynamic nonhuman objects and beings who are directly engaged in worldly human affairs.

it may drive ritual action, is heterogeneous and contradictory, fluid and chimeric. Action structures belief. What matters most, at least archaeologically, is how ritual plays out in space and time, in the course of worldly transactions, and how it constructs individuals as certain types of subjects. Papers in the processions symposia and this volume focus on processions as dynamic, transformative ritual practices in their own right.

Processions and Ritual Landscapes

I now distill what I consider some of the key dimensions of pre-Columbian processions that symposia participants brought to the table. I consider their roles, sequentially, for the production of ritual space, ritual time, and ritual bodies / persons. First, ritual space. J. Z. Smith suggests (1987:103), echoing Bell, that ritual is first and foremost, a mode of paying attention.' He continues, this 'explains the role of place...: *place directs attention*' [my emphasis]. Following Gibson's (1986) 'ecologies of perception,' I suggest taking this further. Place not only 'turns your head' but, more profoundly, *educates attention* to specific built and natural environments. Processions and the encompassing ritual events they punctuate seduce individuals into learning, internalizing, embodying, and appropriately transacting with specific built and natural landscapes. Conducted repeatedly, cyclically, and over long histories, this



focused, embodied attention is fundamental to constituting people as ideal or at least competent subjects or citizens.

Clearly, many centers and monumental landscapes in Mesoamerica and the Andes were strategically built to foster and aggrandize ritual movement. Constructed environments at Teotihuacan and Chiapa de Corzo, Mexico, at Kaminaljuyu, Guatemala, at Tiwanaku or on the Island of the Sun, Bolivia, or at Pachacamac or Chinchero, Peru, educated the attention of ritual participants to particular structures, plazas, entrances, canals, murals, or monoliths. To cite Nair (2014), they were theaters for processional performances. And yet in several cases, they were regularly refabricated.

Teotihuacan was unique in its supreme focus on a central axis, the so-called 'Street of the Dead' (Evans 2014). Constructed to integrate the city and its inhabitants with surrounding water sources,

peaks, and celestial cycles, this processional route (**Figure 2**) remained its principal axis for multiple generations.

Later innovations, including constructing the southern complex and canalizing the San Juan River, expanded and ritually refined Teotihuacan's by-then ancient axis rather than dramatically re-routing its processional praxis.

Figure 2. Teotihuacan's Street of the Dead extends north toward the Moon Pyramid and Cerro Gordo. (Photo by S.T. Evans)

Maya causeways were less centralized and ‘autocratic’ but sometimes constructed new linkages, according to Traci Ardren (2014). Adapted to a far more flood-prone landscape, *Coba sacbeob* were ideal spaces for processions- some likely military -and other forms of ritual movement. Some were built to create exclusive linkages between the center and particular elite residences, indicating that at least certain processions on these sacbeob were socially restricted affairs.

Sullivan (2014, 2016) analyzed long-term transformations in monumental architecture at and around Chiapa de Corzo, Chiapas, Mexico. Monumental complexes at the centers he describes, which include La Venta in the State of Tabasco, were *designed* to stage ritual movements and processions (**Figure 3**). Many were designed and constructed according to a particular architectural arrangement that has been termed the Middle Formative Complex. Elements of this complex vary among sites and shifted over time.

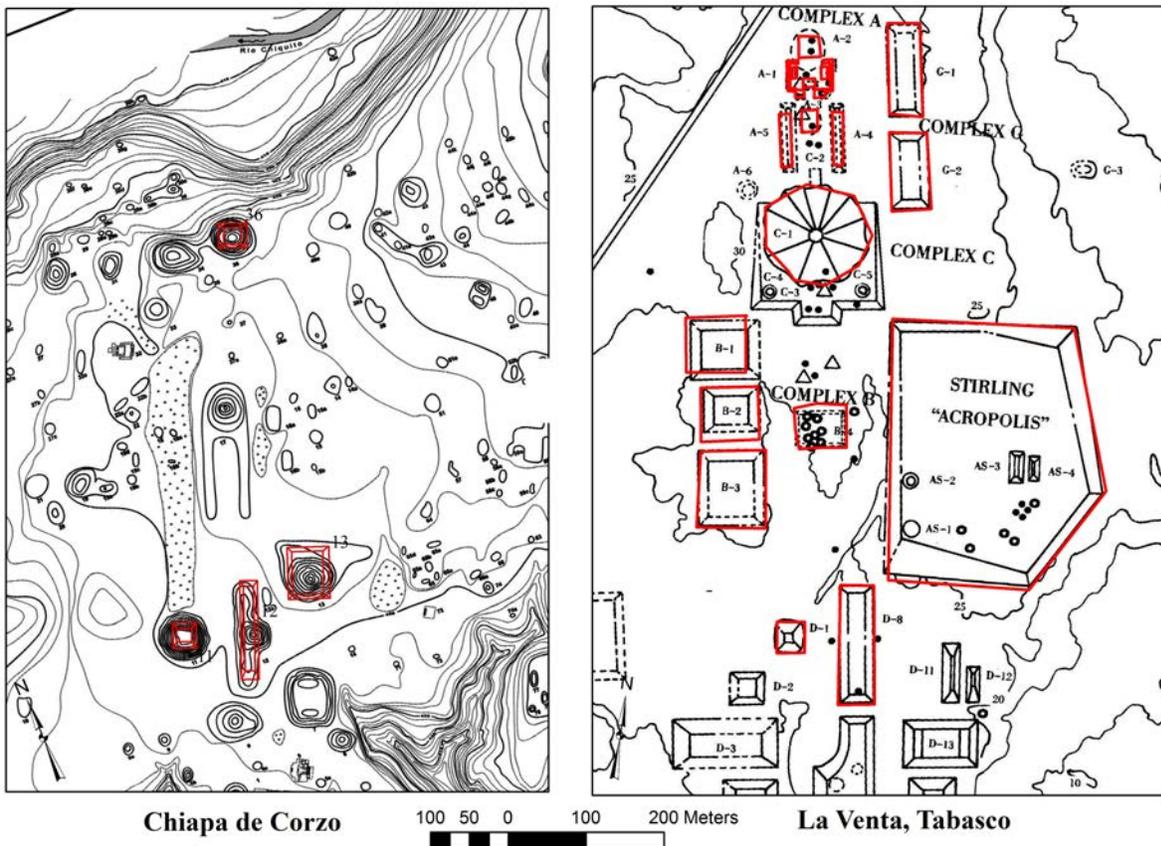


Figure 3. Plans of Chiapa de Corzo and La Venta, about 120 miles apart, reveal arenas for ritual processions in Mesoamerica’s Middle Formative period. (see Sullivan 2016: Figure 2)

Temporal shifts, overall, demonstrate an increasing purchase of emergent elites over spaces of ritual movement.

This resonates with ongoing research in the south-central Andes, where we find that formative centers 1) were designed to stage ritual movement, 2) housed emergent high status groups, and 3) ultimately produced Tiwanaku, a hierarchical society focused on a primary, axial center. In early Chiapas and in the south-central Andes, processions were central to ongoing sociospatial transformations.

Processions and other modes of ritual movement toward and through carefully constructed environments appropriated and transformed ‘natural’ landscapes. Environments built to facilitate ritual movement nearly always created corporeal (visual, auditory, gestural) engagements with prominent landscape features, whether celestial events, mountain peaks, outcrops, caves, springs, or something else. These engagements tie ritual movement to recurring cycles and prominent landscape features that are deemed critical for human well-being.



Stanish and Tantalean (2014) demonstrated that dual-mound groups and geoglyphs on the high Pampa de Gentil, Peru, created alignments to austral solar solstice setting places on the western horizon while directing processions toward major ritual and economic centers below.

Several papers demonstrated that key landscape features included mountain peaks, springs, and stone, while key skyscape features included solar observations. A comprehensive landscape (earth-sky) perspective invites exciting inquiries into the *political ecology* of processions, by which I mean, as Eric Wolf (1972) put it, ‘how power relations mediate human-environment relations.’ The relationship of procession to water is intriguing. Water in its various states -- as rainfall, springs, rivers, etc. -- was central to pre-Columbian ritual movement and the construction of pre-Columbian ontologies. Evans (2016) showed the intimate spatial connections between processions and flowing water in Teotihuacan, from origin springs near Cerro Gordo through canalized portions of the Rio San Juan; Teotihuacan’s principal avenue and urban axis, the Street of the Dead, was oriented to honor rainfall and maize production. Broda (2014, 2016) discussed the annual cycle of Aztec child sacrifices that began in February and culminated in April with the ascent of nobility to the summit of Cerro Tlaloc in petition for rain (**Figure 4**).

Figure 4. The summit of Mount Tlaloc is about 30 miles due east of Tenochtitlan/Mexico City. The Aztec ceremonial center consists of a processional causeway several hundred feet long, opening into a square sanctuary. (photo *Cia. Mexicana Aérofoto*, S.A. 1941) (Archive J. Broda).

In the Andes, the renowned pilgrimage centers of Pachacamac and Island of the Sun- respectively on the Pacific Coast of Peru and in the southern portion of Lake Titicaca- both invoked the vital power of water for the well-being of humans, their herds, and their crops.

Mendoza (2014, 2017) related the importance of water in current Qoyllur Rit'i pilgrimage to Mount Qullqipunku (**Figure 6**). The shrine is located at the foot of a glacier, and a focal act of the pilgrimage is to carve out and carry back to the local community large chunks of it. These chunks embody Qullqipunku and are carried back to the community in a hopeful bid to ensure a

continuous water supply and productive success for local communities.

At Kaminaljuyu, a Classic Period highland Maya center well-known for its intricate and masterfully crafted hydraulic landscapes, Arroyo and Henderson (2014) analyzed lithic sculptures that depicted rulers 'striding' over crocodilian 'watery earths.' Manipulating water via complex hydraulic systems was literally the political substrate of ruling power and linked highland Maya rulership to primordial cosmic origins. In all of these cases, too, water *itself*, whether frozen or liquid, placid or in motion, was a vital experiential element of ritual movement and procession.



Figure 6. Pomacanchi pilgrims on their second day of the walk (photo by and courtesy of Zoila Mendoza [2006]).

Procession and Ritual Time

One theme the processions symposia innovatively brought to the table of thematic discussion was an emphasis on *movement and temporality*. Ritual movement, and particularly structured processions, construct particular experiences of time. The manner, cadence, duration, and periodicity of ritual movement collectively construct ritual time, time out of time, a temporality markedly different from that of daily routines. Combining cues from the spaces and

representations of procession, we see that they can involve stepping, striding, marching, dancing, and, in some cases, crawling. Ritualizing gaits undoubtedly meant in some contexts moving more slowly than a typical gait, perhaps in orderly formation, in synchronized step, or perhaps in sync with spatial cues as in the Twelve Stations of the Cross, while others were vigorously danced accompanied by lively music. Mendoza's study of Qoyllur Rit'i

highlighted the importance of periodic pause, accompanied by shifts in song and perhaps musical genre; while Wiersema's (2014, 2016) close study of Moche pottery emphasized the importance of spatial pause while moving into an inner sanctum or onto a stage (**Figure 7**).



Figure 7. Moche IV architectural vessel. Moving up the spiral chamber is a procession of painted foxes. Defining the rungs of the spiral are modeled snails. At the place where procession and architecture meet is a sunken step that bridges painted and sculpted forms as well as movement and stasis. This feature is proposed as a liminal space. (Ministerio de Cultura/MNAAHP C-03340. Photo by Juliet Wiersema)

Temporality also brings us back to think about how procession fits into broader ritual events and their recurring cycles, many if not most of which endured multiple days. If you accept the relational approach to processions I suggest, than not all ritual movements- dances, parades, or pilgrimages –are processions. Qoyllur Rit’i pilgrimage endures several days, and only key moments are relatively highly structured as processions, in particular moments *en route* to and at the sanctuary, during portions of the pilgrimage leading to the principal acts and offerings, and thus those where the stakes are highest.

Relative structure in movement varied greatly during the periodic Inca ritual of *capac hucha*, during which children from across the empire were sacrificed in the name of the ruling Inca and the multiple animate mountain peaks that spanned the empire (Zuidema 1978). Selected children and their families followed official Inca roads to the capital of Cuzco, where in a sequence of elaborate rituals the children were ritually ‘married,’ sanctified, feasted, and essentially rendered ideal ‘miniature’ subjects. Afterward, they and their families processed solemnly in radiating straight paths through the Cuzco heartland and back to their home communities, singing, chanting, and carrying elaborately crafted offerings, including miniature pairs, that would accompany the sacrificial burials.

Processions and the rituals they

punctuate occur at important and auspicious times, whether directed by celestial cycles or attendant on critical social events- a military victory, the death of a ruler, or the onset of drought. If ritual creates distinctive temporalities, temporal cycles reciprocally structure ritual. Qoyllur Rit’i occurs at the first annual rise of the Pleiades over the horizon (late May-early June), heralding the coming austral winter solstice and its attendant harvest. Without documentation, archaeological evidence for such ritual movement would be difficult if not impossible to discern. Yet as several papers indicated, attention to the alignment of centers, monuments, and ritual routes can offer powerful clues. Clear alignments with celestial events and cycles directed the construction of central complexes and processional routes in Chiapas, in the Maya lowlands, at Teotihuacan, and at Late Paracas sites in Peru. Resonating with Evans’s attention to the complementary and coordinated flow of processions and water in Teotihuacan, processional routes were built to align bodily movement to and create corporeal encounters with specific recurring celestial phenomena, such as solstices and equinoxes, the first heliacal rise of Pleiades, and a host of others. It coordinated such mobile ritual engagements with recurring seasonal agrarian and celestial cycles and to the elaborate calendars that organized ritual movement through carefully constructed anthropogenic landscapes.

Processions and the Production of Ritual Bodies

Ritual movements produce ritual bodies. Learned and recurrently enacted or at least witnessed, time and again, they seek to produce ritualized persons and ideal subjects. Of course, crafting an ideal citizen is a proposition, not a guaranteed deal.

Sullivan (2014, 2016) argued that in formative Mesoamerican societies, recurring processions were crucial for constructing and institutionalizing power relations. I agree, yet ritual movement and processions remained critical to the political constitution

of later, relatively institutionalized (if volatile) Classic Maya city-states. They remain critical to the political constitution of relatively institutionalized (if volatile) nation states that comprise the current global geopolitical order. Who has not grown up in a small town in the United States without being struck by the time, effort, emotion, theatrics, and commemoration that goes into producing a local Memorial Day parade; or, for those among us who participated in such rituals as youths- perhaps as a marching band geek – the practice, discipline, excitement, fear, and clear sense of risk that goes into pulling off one’s part successfully, at least competently, or just not looking like a fool. Or, consider how thoroughly a person has been ritually constituted as a political subject who can declare, even threaten, after witnessing protesters burn a U.S. flag at a rally, ‘those idiots should be shot for treason.’

The heavily guarded secret of institutionalized political systems is that they are all uniformly subject to imminent failure, collapse. The recurring, highly structured rituals celebrate and are considered to buttress, even constitute those institutions, even as they transform them with every performance, but they are also

subject to failure, or at least popular disapproval. Ritualized practices embodied, enacted, and constructed power relations in the pre-Columbian Americas, most fundamentally and effectively by producing thoroughly ritualized political subjects. Key to the ongoing production of political subjects were intensively structured and disciplined modes of ritual movement, namely processions.

This conclusion challenges us to ‘find’ past participants and officiants of processions in the archaeological record. Several papers in the 2014 processions symposia offered intriguing clues. Iconographic depictions at Kaminaljuyu, in Teotihuacan apartment compounds, and on Maya stelae all appear to depict persons in procession. Jiménez and Cobean (2014, 2016) presented evidence for the sculpted, iconographic depiction of personages in procession in association with a variety of likely processional routes in Tula, Mexico. The processions were depicted on benches and incorporated a diverse society of hierarchically differing personages -- warriors, priests, and possible rulers -- all dressed in the attributes of deities and moving in linear order (**Figure 8**).

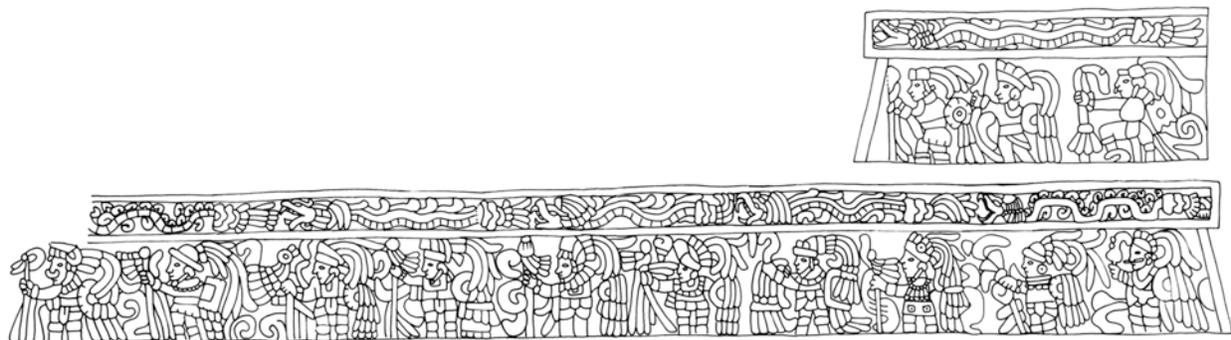


Figure 8. Benches from Tula’s Burned Palace depict a procession of warriors, perhaps dedicated to the Feathered Serpent (drawn by and courtesy of Elizabeth Jiménez García).

Referring to points made by Mendoza and Wiersema, it is an intriguing possibility that the benches marked key moments of ritual-spatial pause or some other punctuated ritual engagement on the processional routes that passed through the colonnaded halls of Tula's monumental core. The benches may depict *processing deities*, and thus transcendent models for recurring human processions through Tula, as Jiménez and Cobean suggested; or, from a more transactional pre-Columbian perspective, they may depict *processing humans* bedecked as and temporarily embodying those transcendent, primordial personages.

Several processions symposia papers emphasized the intensive corporeal disciplines and engagements of ritual movements and processions. Most touched on the heightened multisensory experiences that they afforded. Mendoza noted that key moments in the Qolloyorit'i pilgrimage pique multiple human senses. Intensified sensory stimulation is central to our relational understanding of ritual. It involves a rich, even overwhelming conjunction of sights, sounds, aromas, and tactile sensations. Music, pounding drums, or just the recurring sound of stepping, striding, marching, or dancing persons moving in synch, educates attention to the particular cadence or collective import of a procession. At Kaminaljuyu, striding rulers 'sound things' in tune to the sound of running water, the water that fed parched fields and herds (Arroyo and Henderson 2014). Lining the

walls of a small temple at the Maya site of Mulchic, murals show figures in an intricate set of movements, engaging us as witnesses to, and participants in their rituals, according to Lyall (2014).

Throughout the pre-Columbian world, burning aromatic herbs, resins, and fats in 'incense burners' constructed ritual spaces by producing specific sorts of smoke and aromas. In the Andes today, offerings burned so that animate mountain and earth deities may consume them are aromatically rich and evoke entire transactional landscapes of soils, plants, animals, and humans.

The seductive capture and self-directed, ritualized production of disciplined bodies in motion is the alpha and omega of ritual movement and procession. Two D.O. papers highlighted this point for the Inca. Nair's (2014) acute analysis of the multiple entrances to Chinchero's Pampa communicates the extent to which ritual movement was tightly controlled by Inca authorities. Chinchero's multiple entrances delegated important ritual tasks; one framed a view of a nearby animate peak, one provided an 'everyday' point of entry for the Inca ruler and his family, others provided entrances and exits for ritual performers. All were tightly monitored; passing through them demanded self-imposed, monitored corporeal discipline. Curatola and Protzen (2014) describe similar control features upon entering Pachacamac and the Island of the Sun, the two most important pilgrimage centers in the Inca empire (**Figure 9**).



Figure 9. The first view the pilgrims would have had of the "Sacred Rock" or "Titikala" from the main gate to the sanctuary on the Island of the Sun. Photo courtesy of and taken by Jean-Pierre Protzen on his "pilgrimage" to the site.

While Pachacamac guided pilgrims into a narrow, visually restricted passage before approaching the primary sanctuary, approaching the Island of the Sun demanded increasingly intensive and invasive tests to ensure one's 'purity' before approaching one of the most sacred Inca temples. To again cite Nair, the Inca devised specific

'architectural strategies' to craft an empire punctuated by constructed environments that demanded self-disciplined and yet potentially monitored ritual movements. These architectural strategies and the disciplined ritual movements they demanded were fundamental to the rapid consolidation of an Inca empire

Things in Procession

One theme the symposia did not fully engage was the ritual movement of things, non-human material objects. Wiersema pointed out that ceramic vessels in coastal Peruvian Moche culture drew attention to ritual movement, emphasizing a

'recessed step' that distinguished relatively mundane (painted) from more sacred (modeled) spaces. What role did such vessels themselves play in ritual movements and processions? At the SAA meeting preceding the D.O. symposium I referred to

the animacy of stone in the Andes; for example, stones that Viracocha converted into warriors to help the Inca ruler Pachacuti defeat the Chanka, or clusters of ‘tired stones’ that are considered ritual processions that froze into place as the sun first rose. Most often, humans are treated as the sole dynamic agents of movement and engagement. Yet, in pre-Columbian worlds, certain objects and places were routinely rendered animate and powerful in specific ritual contexts. The Inca ruler brought important animated things (*wak’as*) on his journeys across the highland Andes, frequently beseeching and rendering offerings to them in order to determine ‘what to do’ or ‘where to go’ next. Who dictated movement, the Inca or his *wak’as*? In Qoyllur Rit’i, pilgrims carry portable but local icons, or *laminas*, from their community sanctuaries to the mountain

Processions in Tiwanaku

The processions symposia papers have encouraged me to reconsider the importance of ritual movement and procession in the pre-Columbian urban ceremonial center of Tiwanaku. A conjunction of spatial and material patterns indicated that ritual movement was central to the production of Tiwanaku society and processions were central to the production of properly constituted ritual persons and bodies. While Tiwanaku expanded into a city that thrived for some five hundred years, it was also, importantly, a powerful center of panregional pilgrimage. Its ritual prestige and the sacrality of its multiple temple complexes were central to and indivisible from its political power, which thrived on the production of generations of specific sorts of subjects. Who were these

shrine, so that they may be blessed at the primary sanctuary; and upon returning carve out and carry back to their home communities chunks of the Quelquepunku glacier in a hopeful act of ensuring the vitality of their home communities. In straight, highly structured return journeys to their home communities, *capac hucha* families carried sacred gifted ritual items, some of which were buried with the sacrificed children.

Sallnow (1987:180) even notes that ‘the ostensible purpose of a pilgrimage [to Qoyllur Rit’i] was to escort’ an icon ‘from the community to the sanctuary, where it would repose for a night.’ In this perspective, the icon was the primary pilgrim. I argue that specific key iconic ritual objects were central to processions and the production of subjects in Tiwanaku.

subjects, and how were they constituted as such?

Tiwanaku monumental complexes were built to facilitate movement toward, into, and through them. Tiwanaku’s emphasis on movement and permeability is especially clear when compared to the contemporary city of Wari, Peru, the spatial organization of which emphasized restricted entrances, high walls limiting intraurban visibility, and enclosed ‘elite’ patio groups (Isbell and Vranich 2004; Janusek 2008). Tiwanaku’s monuments were temple complexes that constituted the final journey for pilgrims and others who flocked to Tiwanaku for major ritual events, especially those linked to recurring astronomical events such as solstice and equinox observations (Benitez 2009, 2013).

The massive terraced platforms of Pumapunku and Akapana incorporated extensive, primary west entrances that led celebrants up to their summits to witness impressive views of the peak of Mount Illimani and, ultimately, toward intimate sunken courts (Kolata 1993; Vranich 2009). Kalasasaya led celebrants up a large west monolithic stairway to witness views of the ancient volcano Mount Ccapia, to the west, and into a sunken court. This is not to suggest movement into Tiwanaku's core ritual spaces was unrestricted or non-exclusive. Access to the far west platform of Kalasasaya, a platform that tied annual solar observations to distant peaks, including Ccapia, was likely restricted to persons of

particular status and role. Still, Tiwanaku monumentality emphasized access, permeability, and movement.

Movement into and through Tiwanaku's monumental complexes was thoroughly ritualized and created particular experiences of space, time, and corporeality. In addition to expansive entrances Tiwanaku monuments were fitted with megalithic stone portals. The well-known Solar Portal in Kalasasaya, with its elaborate frieze centered on a staff deity, is just one of several that afforded entrance into increasingly inner sancta within Tiwanaku's temples (**Figure 10**) (Janusek 2008; Protzen and Nair 2000).



Figure 10. Central frieze of Tiwanaku's Solar Portal presenting thirty profile figures facing and *processing* toward a central, frontal staff-bearing personage. The scene occurs over a serpent band that interweaves eleven solar-headed faces (photograph by Janusek).

Portals formed permeable boundaries between increasingly ritualized, and in some cases increasingly intimate and restricted spaces. Especially in Pumapunku, carved ‘blind portals’ or stone portal icons- including nested portal icons –were prominent, repetitive elements of ritual architecture (**Figure 11**). Akapana and Pumapunku themselves were built to form massive terraced ‘portals’ that linked realms of earth and sky as appropriated, perhaps ‘perfected’ mountains (**Figure 12**). Portals ritualized movement into Tiwanaku’s temples and afforded engagements between human and ancestral personages.



Figure 11, at right.
An andesite block carved with nested portal icons from Pumapunku (photograph by Wolfgang Schüller).

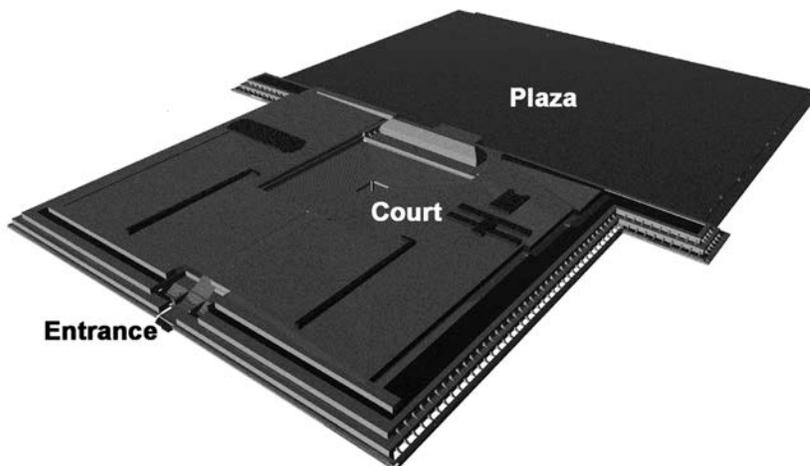


Figure 12, at left.
Isometric reconstruction of Pumapunku, demonstrating its form as a massive portal appending an expansive east plaza for ceremonial gatherings (courtesy of Alexei Vranich).

Movement toward Tiwanaku's monumental complexes likely became increasingly structured in gesture, cadence, and space as elaborate entrances and portals carried celebrants into increasingly ritualized, sanctified spaces. Further, increasingly internal spaces were likely places for witnessing the processions of ritual specialists and special performers. The frieze of Kalasasaya's Solar Portal presents an elaborate procession centered on a still, forward-facing, staff-bearing personage in high relief who wears a solar headdress and stands on a terraced platform-mountain (see Figure 10). Three rows of processing, lower-relief, human-like figures in profile- the middle row with beaked, skyward-facing bird heads –face and appear

to move toward the central personage, fifteen to a side; thirty in total. The number of profile figures approximates the number of days in a lunar month. The entire scene rests on a 'serpent band' that interweaves eleven repeating smaller 'solar' faces, each of which likely identifies one of the eleven massive volcanic stone pillars that Kalasasaya astronomer-ritual specialists employed to track the setting sun as it moved across the earthly horizon (Benitez 2009; Posnansky 1945). The Solar Portal orders ritual procession as a lunar cycle linked to the annual, recurring 'procession' of the sun. Tiwanaku events that featured processions were ordered according to such astronomical cycles and generated particular experiences of ritual time for leaders,

specialists, and celebrants alike.

Tiwanaku's monumental temples housed anthropomorphic stone personages (Figure 13).

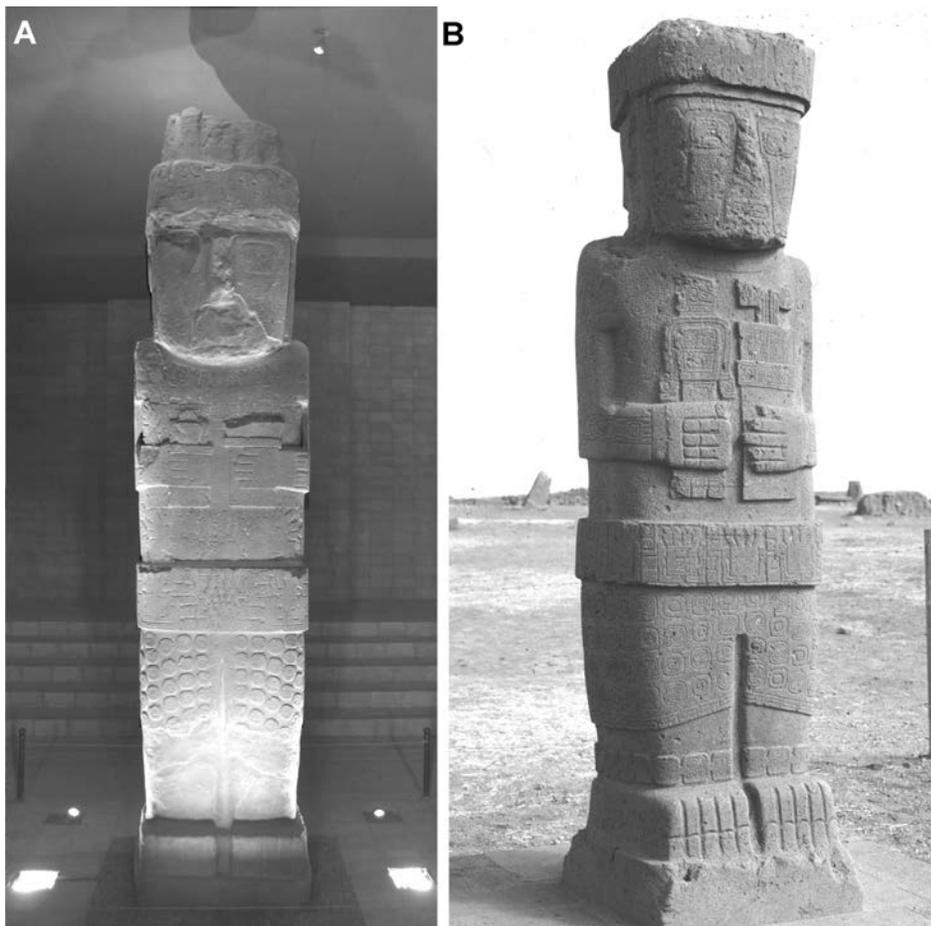


Figure 13. The Bennett and Ponce monoliths, and their focal presentation gestures: each holds a *kero* in the left hand, and a snuff tablet in the right (photographs by Janusek).

Many of these personages were telluric ancestors and the temples they occupied were treated as their homes (Janusek 2006; Janusek and Guengerich 2016). They were also perhaps the most important personages that pilgrims and others came to visit, engage, render offerings to, and otherwise venerate on pilgrimage to Tiwanaku. Engaging them, of course, required passing through elaborate entrances and megalithic portals that ritualized and sanctified the constructed places they inhabited, and demanded the relatively structured gestures, cadences, and interpersonal spaces of processions. Each of the central personages stands erect and holds- presumably in an act of reciprocal engagement with its human interlocutors- a Tiwanaku *kero* for consuming fermented drink in one hand, and a tablet for snuffing hallucinogenic resins in the other. Each presents an ideal ritual attitude, manifested in its posture, gesture, and dress, but also, importantly, complementary mind-altering substances indexed by the complementary objects- a *kero* and a snuff tablet –that it holds in each hand. The gesture indicates that these iconic

Tiwanaku archaeological artifacts- ceramic *keros* and wooden snuff tablets -were charged ritual objects central to processional ritualization and for facilitating the mutual engagement of fleshy and lithic persons.

The bodies of two Presentation Monoliths, those last carved and most representative of Tiwanaku at its ritual-political peak, present carved figures in procession. Each stood in an inner sanctum, the andesite Ponce Monolith in the Sunken Court of the Kalasasaya and the sandstone Bennett Monolith in the early, adjacent Sunken Temple. On the torso of each, elaborately bedecked figures process from around the back of the monolith, and from a scene centered on a standing front-facing solar personage, around its arms and across its sides, and toward the front presentation gesture with its *kero* and snuff tablet.

The procession on the Bennett Monolith (**Figure 14**) originates in a solar personage with upraised arms, and includes profile figures with human-like faces, figures with upturned bird heads, and on either side, an elaborately bedecked llama bearing a cactus-like plant.

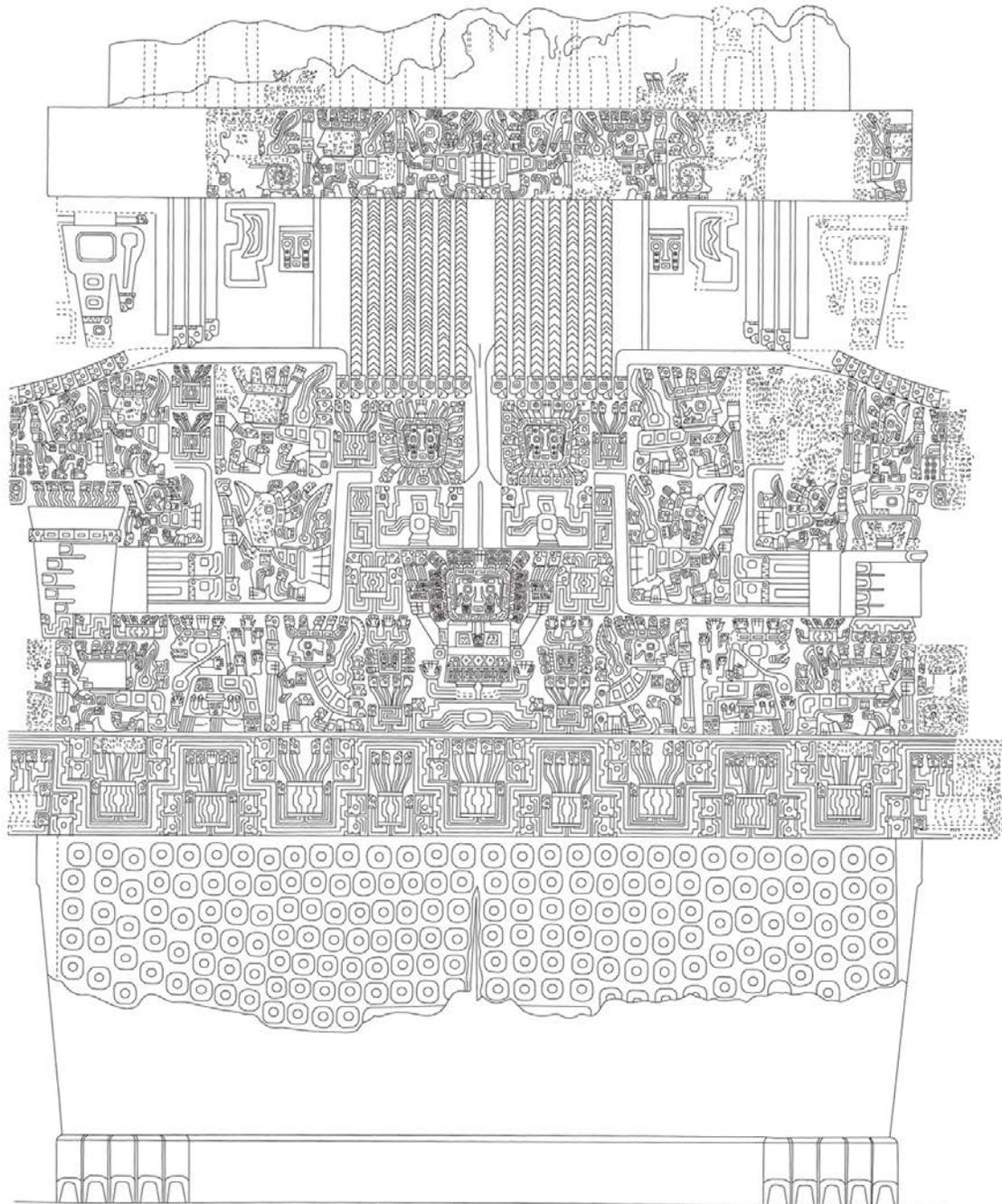


Figure 14. Splayed image of the Bennett Monolith, which shows the ‘procession’ of several figures from a central front-facing personage (center) on the back of the monolith, around toward the presentation icons of a kero (left) and snuff tablet (right) (image redrawn from Posnansky 1945 by Sally Lynch, McMaster University).

The iconographic procession continues around the sides to the front presentation gesture, emphasizing the ritual centrality of the objects and their mind-altering contents for human-monolithic and perhaps other transactions. Further, they direct the cadence and trajectory of the procession from a central back solar personage- the personification of a recurring celestial body-cycle that became axial for Tiwanaku's emergent calendrical regime –toward the frontal, reciprocal, if asymmetrical, gesture of engagement between living human and

Concluding Thoughts

Ritual movement, specifically highly structured, intensely choreographed modes of ritual movement – *processions* -- are critical for understanding pre-Columbian cultures. Echoing Sullivan's work, and as a fellow Formative archaeologist, I think recurring processions were central for early and ongoing transformations in the pre-Columbian Americas, and ultimately, for the ongoing production of cities. The demanding planning, choreography, and structured performance of processions fostered the construction of built environments and the animate landscapes and celestial cycles they appropriated. Political power did not lurk behind Kafkaesque conceptual curtains, a reclusive Wizard of Oz secretly dictating ritual movement from abstract and unattainable 'political institutions.' Clifford Geertz (1981) tackled this problem in his study of Balinese cremation rites, and concluded in his famous inversion of utilitarian anthropological causality; 'power serves pomp, not pomp power.' As usual, he exaggerated to make a point. If ritual isn't a function of power, neither is power a

ancestral beings. Ritual movements and, specifically, highly structured processions were central to Tiwanaku's emergent ritual-political power and panregional fame in the south-central Andes. Such ritualizing movements were critical in producing particular sorts of social personae and ritual-political subjects by recurrently, cyclically, and in relatively structured and disciplined manners, educating attention to particular experiences of space, time, and corporeality. Particularly iconic Tiwanaku objects were central to this ongoing ritualizing process.

function of ritual. Ritual *enacts* power through the production of appropriate social personae. Through the recurring production of space, time, *and especially subjects*, processions *constructed* power relations.

A key reason that pre-Columbian processions were so intensely choreographed is that so much was at stake: they enacted social hierarchies, they produced ritual subjects, and they were performed as dedications to the animate beings that ensured the well-being of the ritual subjects that rendered them offerings. As Evans pointed out, they were choreographed to construct some ideal model of society. Nair's focused analysis of Chinchero communicates just how this occurred in a highly regulated, intensely stratified state-focused society. Yet the success of a particular ritual is always a gamble. Highly structured rituals like processions are billed to do *more than a few* things: provide a template for social hierarchies, enact power relations, align the world of humans to the worlds of powerful non-human persons, '*pray with your feet*,'

seek to ensure that they are precisely performed such that all co-participants are content, and so forth. These thoughts brought us squarely to the Music Room at Dumbarton Oaks where the second symposium took place. We had all made something of a pilgrimage to this hallowed academic place. While processions punctuated only brief moments between groups of papers at the symposium, they were certainly intensely timed and structured. I asked, was this symposium successful? Did it somehow shift our perspective on the pre-Columbian World, on processions?

Mendoza noted that successfully conducting a ritual in central Peru produces a sensation of *pampachay*. *Pampachay* in Quechua is a 'leveling' that occurs after a major ritual event. Bolivian Aymara have a

similar notion. It refers not a return to a prior state, but to the successful creation of a new state via the successful performance of a series of ritualized acts or movements in an auspicious place. These acts include danced processions and burning ritual offerings. At Dumbarton Oaks, they involved the successful performance of presentations in its storied inner sanctum – the Music Room -- followed by processions into the Orangery for dinner and libations. As the symposium closed, I sensed *pampachay* among the symposiarchs and fellow presenters. Then, after the obligatory ritual applause and closing statements, relaxed conversation and animated discussions escalated as we got out of our seats and *processed* one last time into the Orangery, where 'now we could get drunk.'

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Processional Ceremonies in the Formative Period Chiapas Central Depression, Chiapas, Mexico

Timothy D. Sullivan

Processional ceremonies figured prominently in Mesoamerican religious practices at the time of European contact, and continue in different guises today. The organization of architecture, and sometimes of sculptures, within the earliest Mesoamerican political centers supports the idea that processional ceremonies date to at least the inception of polities in this area. These ceremonies provided much more than the ideological legitimization of leadership roles; they served an essential function to insure the cosmic balance and the survival of the community. The prehispanic Mesoamerican world view did not distinguish between what most contemporary people would view as pragmatic adaptive techniques designed to increase production, and belief-based practices designed to venerate or pacify cosmological forces and entities. The idea that these ceremonies were less important to survival than the construction of irrigation systems or the manufacture of stone tools would not have made sense from their perspective, which held that cosmological forces permeated every aspect of daily life (Monaghan 2000: 26-39).

Large scale processional ceremonies also created a sense of community and facilitated the emergence of social inequality, expanding the power of rulers in other areas of social and economic life (Cypfers and Murtha 2014: 86-87; Hill and

Clark 2001; Inomata 2014: 19-20), and creating what Eric Wolf referred to as structural power (Wolf 1990: 586, 590-591; 1999: 5-15). Wolf describes structural power as “the power manifest in relationships that not only operates in settings and domains, but also organizes and orchestrates the settings themselves, and that specifies the direction and distribution of energy flows” (1999:5).

Over the course of the Middle Formative period in Mesoamerica (**Table 1**), the Chiapas Central Depression, an ethnically Zoque area (Lowe 1977, 1999), saw the foundation of a number of new political centers, each of which was centered on a large scale ceremonial zone, appropriate for staging processional rituals. The organization of large-scale rituals had a strong effect on the relation between rulers and subjects, and architectural evidence indicates that this relational structure changed from the Middle Formative through the Terminal Formative periods. In this paper I explore changes in the layout of civic-ceremonial space at sites in the Chiapas Central Depression from the Middle Formative through the Terminal Formative (**Figure 1**), with special attention to the incorporation of E-Group configurations into novel alignments over time. Using ethnohistoric and ethnographic information, I interpret how these spaces may have been used.

Table 1. Chiapas Central Depression chronology.

| Year | Periods | Chiapa Periods | Chiapa de Corzo phases (Bryant et al. 2005) |
|----------|-----------|-------------------|--|
| 400 | Early | | |
| 300 | Classic | VIII | Jiquipilas (AD 300-350) |
| 200 | | VII | Istmo (A.D. 100-300) |
| A.D. 100 | Terminal | | Horcones (100 B.C.- |
| 100 B.C. | Formative | VI | A.D. 100) |
| 200 | Late | | Guanacaste (300-100 |
| 300 | Formative | V | B.C.) |
| 400 | | | |
| 500 | | IV | Francesa (500-300 B.C) |
| 600 | | | |
| 700 | | III | Escalera (750-500 B.C) |
| 800 | | | |
| 900 | Middle | | |
| 1000 | Formative | II | Dili (1000-750 B.C.) |

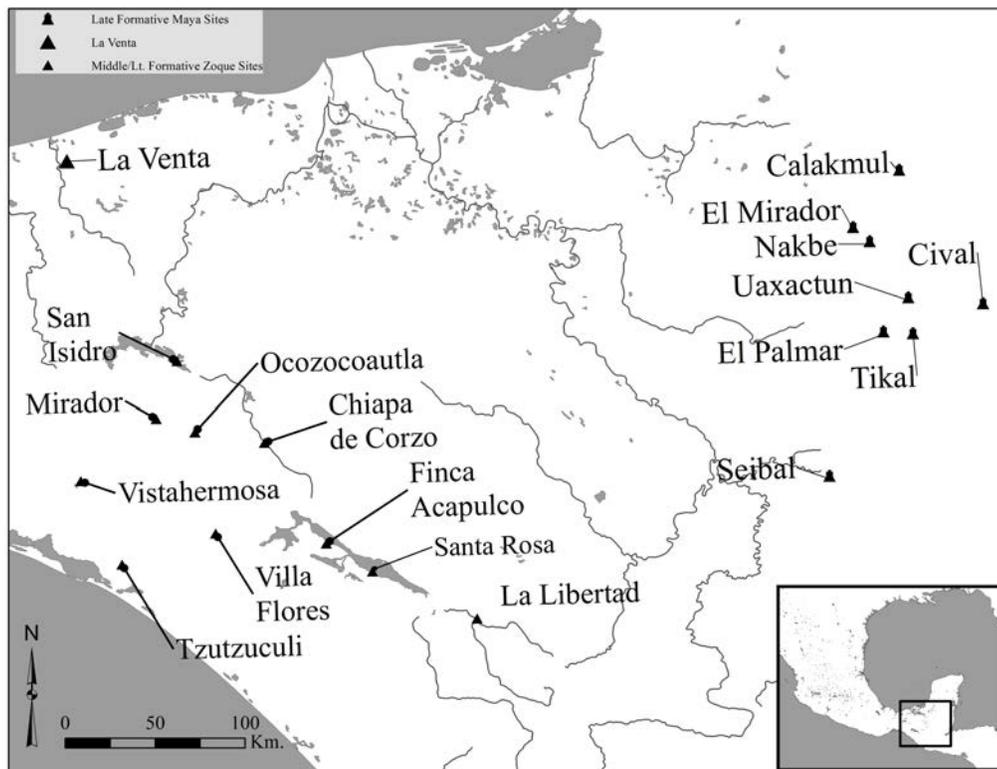


Figure 1. Middle and Late Formative sites discussed in the text.

The changes (discussed below) include the construction of less accessible spaces, and modifications in the use of spaces at these sites over time. These changes indicate a shift away from an exclusive emphasis on processional rituals that were open to the public and likely involved the participation of large numbers of commoners, to an emphasis on more exclusive rituals that were performed outside of the view of the general population, with more limited audiences consisting primarily of nobles.

Outside of a small portion of expansive iconography of the Classic Maya and the more limited iconography of the Formative period, the structure and content of ceremonies sponsored and performed by early Mesoamerican rulers are largely unknown to us. Nonetheless, the settings in which many of these ceremonies took place have in many cases endured, providing some information on the degree of accessibility and inclusivity of rituals performed by rulers. As to the processional aspect of the rituals that took place within these spaces, we have ethnohistoric and ethnographic examples of the importance of processional ceremonies from groups in the same region, and from descendants of the same Zoque culture (Alain 1989; Aramoni 2014: 246-248, 362-369; Gossen 1999: 105-158; Monaghan 2000: 31; Navarrete 1985; Vogt 1977: 42-44; YoSoyELNAGUAL 2012).

Post-conquest Mesoamerican processions crossed, and continue to cross, the landscape that surrounds settlements, and move through the settlements themselves, as well as taking place in formal ceremonial precincts (Aramoni 2014: 247-248; Vogt 1977: 42-47). Mountains in

particular have a special magical significance in the ethnohistorically documented Zoque belief systems, as places of opportunity and danger, and the homes of powerful spirits (Thomas 1990: 219-224). In the highland Maya Tzotzil and Tzeltal communities of Chiapas, the mountains that surround the communities are still perceived as imbued with the powerful forces of ancestral spirits and Earth Lords (Pitarch 2010: 35; Vogt 1977: 44). Processions to the peaks of these mountains are an important part of rituals directed at placating or petitioning these forces (Pitarch 2010: 138; Vogt 1977: 44-50).

Post-conquest processions may represent survivals of traditions that had existed either as, or alongside, state sponsored processions that took place within ceremonial precincts (Aramoni 2014: 306). We have evidence that from the Terminal Formative through the Postclassic periods in the Zoque area of Mesoamerica, processional ceremonies took place outside of ceremonial precincts, as well as within them, involving processions to caves and occasionally hilltops (Domenici 2010, 2014; Peterson and Clark 2014). It is likely that, at least in some contexts, as with the Classic Period Maya, the mounds within ceremonial precincts served as either representations or replications of mountains within sacred natural landscapes (Demarest 2006: 202; Reilly 1999: 18; Schele and Friedel 1990: 71-72).

There is some risk in projecting specific aspects of ritual performance observed historically and in the ethnographic present, especially with respect to specific religious beliefs and

cosmological interpretations (Marcus and Flannery 1994: 55; Vogt 1964). However, some cosmological concepts were widely shared across Mesoamerica, such as the division of the world into four quarters and a center, with the east-west axis being of

primary importance, as well as the division of the cosmos into different celestial and subterranean planes (Carrasco 1999: 104; Gossen 1972: 119; Lind 2015: 339; Marcus and Flannery 1994: 60; Trigger 2003: 447).

Middle Formative Chiapas E-Group Processional Arrangements

Civic-ceremonial spaces constructed during the Middle Formative period in the ethnically Zoque area of the Chiapas Central Depression and its surroundings bear close resemblance to an arrangement of structures

at the Gulf Coast Olmec site of La Venta, Tabasco, in what John Clark and Richard Hansen have termed the Middle Formative Chiapas (MFC) complex (2001: 4-5) (Figure 2).

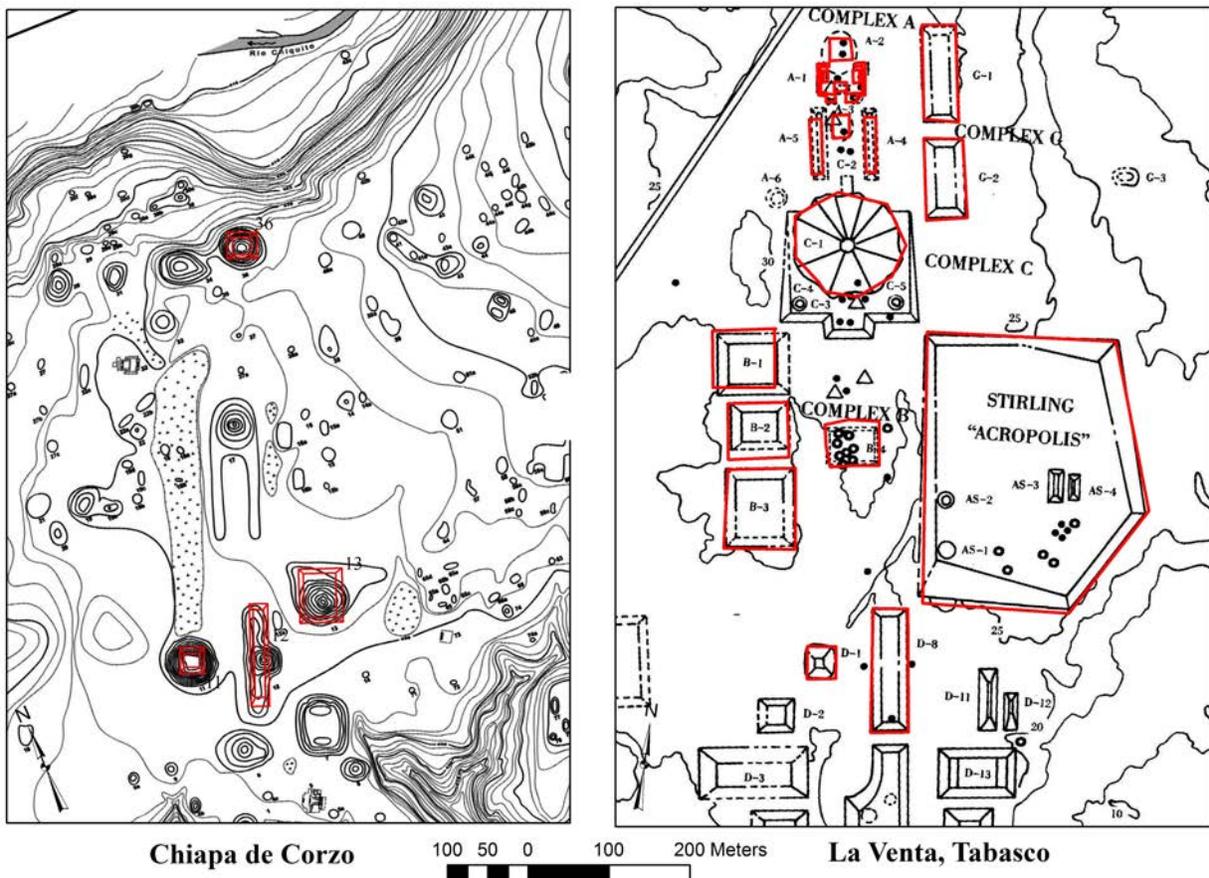


Figure 2. Chiapa II phase MFC structures at Chiapa de Corzo and the La Venta ceremonial zone. (plans adapted by Tim Sullivan from Bachand et. al 2008 and González Lauck 1997)

Whether this pattern originated at La Venta or elsewhere is not currently clear. Recent excavations at Ceibal, and reanalysis of dates from La Venta indicate that the earliest known E-Group (but not the earliest MFC complex) is from Ceibal (Inomata et al. 2013). In any case, the use and of MFC complexes outlived the existence of La Venta as a political center. At Chiapa de Corzo, and possibly at two other settlements that survived into the Terminal Formative period, the organization of architecture surrounding the E-Group was reconfigured through new constructions that created less accessible ceremonial spaces, which conform closely to a pattern repeated at contemporary sites in the Maya Lowlands.

One indication that Middle Formative ceremonial complexes in the Chiapas Central Depression served as processional spaces rather than large plaza spaces from which the public (nobles and/or commoners) viewed regal-ritual performances that took place on the northern

mound can be found in Jerry Moore's (1996: 791) observations on the spatial constraints that limit various aspects of performance. The distance between the northern mound and the northern edge of the E-group of the ceremonial complexes at Chiapa de Corzo and La Venta (approximately 430 m), and to a lesser, but still important extent at the other sites considered in this study (a mean of about 230 m), extend beyond the limits of effective performative space if the plazas were used as a setting for viewing ritual performances enacted on the northern pyramid (**Figure 3**). While temples and elite residential structures almost certainly served as platforms on which rulers and religious functionaries performed rituals, including those held during the course of processions (as they continue to do in contemporary Maya communities), the overall layout of these spaces suggests that they were designed for participants to move through, not as enormous stadiums filled with spectators.



Figure 3. Chiapa de Corzo, view to northeast from Mound 11 towards Mound 36. Photo courtesy of Lynne Lowe.

I begin with a consideration of Chiapa de Corzo, because it was occupied as a political center throughout the period under consideration and because we have better data on construction sequences at this site than any of the others considered in the discussion. The most recent excavation data (Bachand and Lowe 2011, 2012) and my re-interpretation of older data from the site of Chiapa de Corzo (Sullivan 2009: 97; 2012: 36; 2015) indicate that the E-Group (Mounds 11 and 12), the Mound 13 platform, and Mound 36 at the northern end of the site, were built in relatively close succession, presumably as an organized template, which parallels the organization of Groups C, B, D, and the Sterling Acropolis at La Venta (see Figure 2). This MFC template occurs at a number of sites with Middle Formative occupations in and around the Chiapas Central Depression, including Tzutzuculi, Mirador (Chiapas), Ocozocoautla, Finca Acapulco, and La Libertad (Clark ca. 2016; Clark and Hansen 2001: 3-12) (see Figure 1). San Isidro may also have this template, with Mounds 20 and 2 as the E-Group, and Mound 25 as the northern mound.¹

The MFC complexes vary somewhat in degrees of completeness and correspondingly in dimensions. As defined by Clark and Hansen, the MFC template "...consists of a long, north-south plaza (sometimes with a double square) with a pyramid at the northern end of this plaza, a long mound with an offsetting eastern pyramid (an E-Group) on the southern end, a large acropolis or broad mound on the eastern margin of the plaza, and a row of smaller platforms to the west of the plaza" (2001: 12). The MFC complex differs from

the arrangement of lowland Maya E-Groups in the presence of a large mound located at some distance to the north of the E-Group, which created an extensive processional space oriented roughly north-south, and the presence of an acropolis to the northeast of the E-group. Several other Chiapas III and IV sites in the area have an E-Group with an acropolis structure to the northeast but lack an obvious analogue to the northern mound of the MFC complex, such as Santa Rosa (Delgado 1965: Fig. 2), and Vistahermosa (Treat 1986: Fig. 6). In the Maya Lowlands, coeval constructions at the center of Ceibal (Real 2 phase) also appear to conform to this partial MFC pattern (Inomata et al. 2013: Fig. 3).

A second consideration is the scale of these plazas relative to the population of the settlements and broader polities in which they are situated. The area of the plaza at Chiapa de Corzo during Chiapa II measured from the southern base of the northern mound to the northern edge of the long mound of the E-group, and bounded on the east by the western base of the Mound 13 and on the west by the eastern base of Mound 11 measures approximately about 56,700 m², with a crowd capacity of just about 37,800 people (given a crowd distribution of 1.5 m² per person). My population estimates for Chiapa de Corzo during Chiapa II are 1,090 for the settlement of Chiapa de Corzo, and a population of 17,500 for the 2,600 km² of polity at large (Sullivan 2009: 88; 2012: 32). So the area of the Chiapa II phase plaza could have contained over twice the number of men, women, and children in the polity with considerable room to spare (see Figure 2).

At La Venta, the southern plaza measured from the southern face of Mound C-1 to the northern base of Mound D-8 and from the eastern face of D-1 to the western edge of the Sterling Acropolis, encompasses around 50,250 m², with a corresponding capacity of just under 33,500 people (see Figure 2). Imprecision in the mapping of La Venta and ambiguities in the boundaries of

the Chiapa de Corzo plaza area make these dimensions hypothetical. These dimensions are, however, relatively similar between these two centers and other sites with the MFC pattern within the Chiapas Central Depression, with the exceptions of Finca Acapulco and Tzutzuculi, which have markedly truncated plaza areas (**Figure 4**).

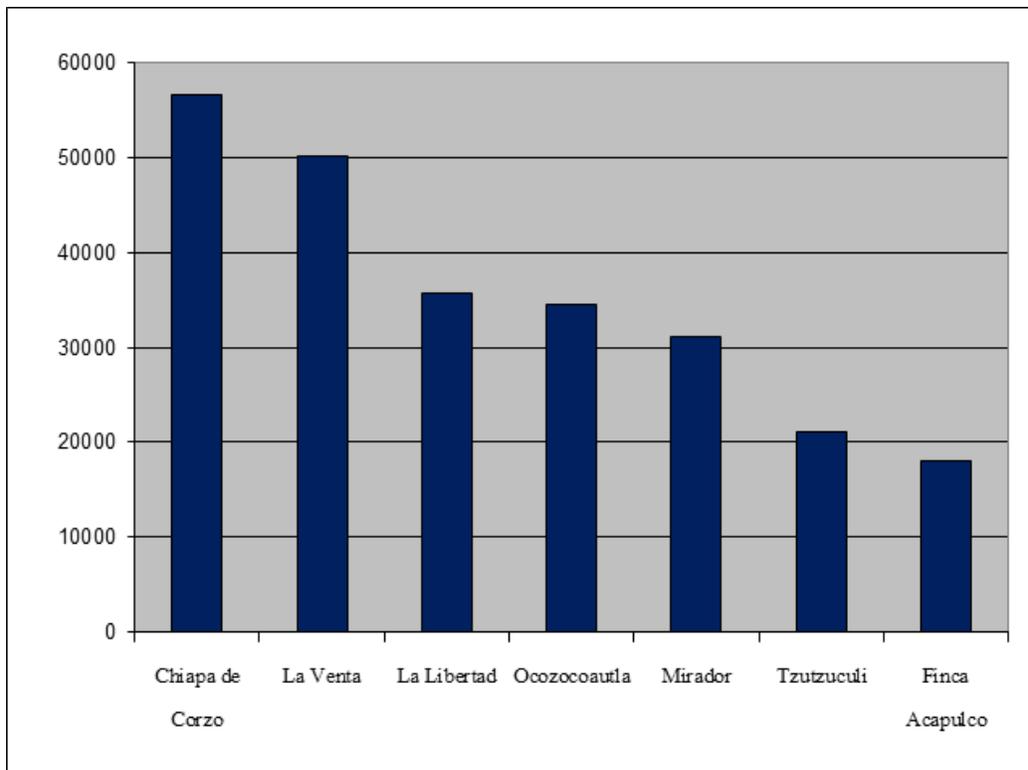


Figure 4. Plot of plaza areas in square meters, in and around the Chiapas Central Depression

Data collected in the hasty 1969 excavations of Mound 17, before its destruction in preparation for construction of a Nestle factory (see Figure 3), suggest that the first stage of the mound was constructed in Chiapa III (Lee and Clark ca. 2016), as a 1.3 m tall platform, after the rest of the civic ceremonial complex had been long

established (**Figure 5**). The southern face of Mound 17 was located approximately 195 m to the north of the northern face of Mound 12, the long mound of the E-Group, at the head of a plaza measuring 26,325 m², and a corresponding capacity of 17,550 people, which is still more than the estimated total Chiapa III polity population of 20,000.

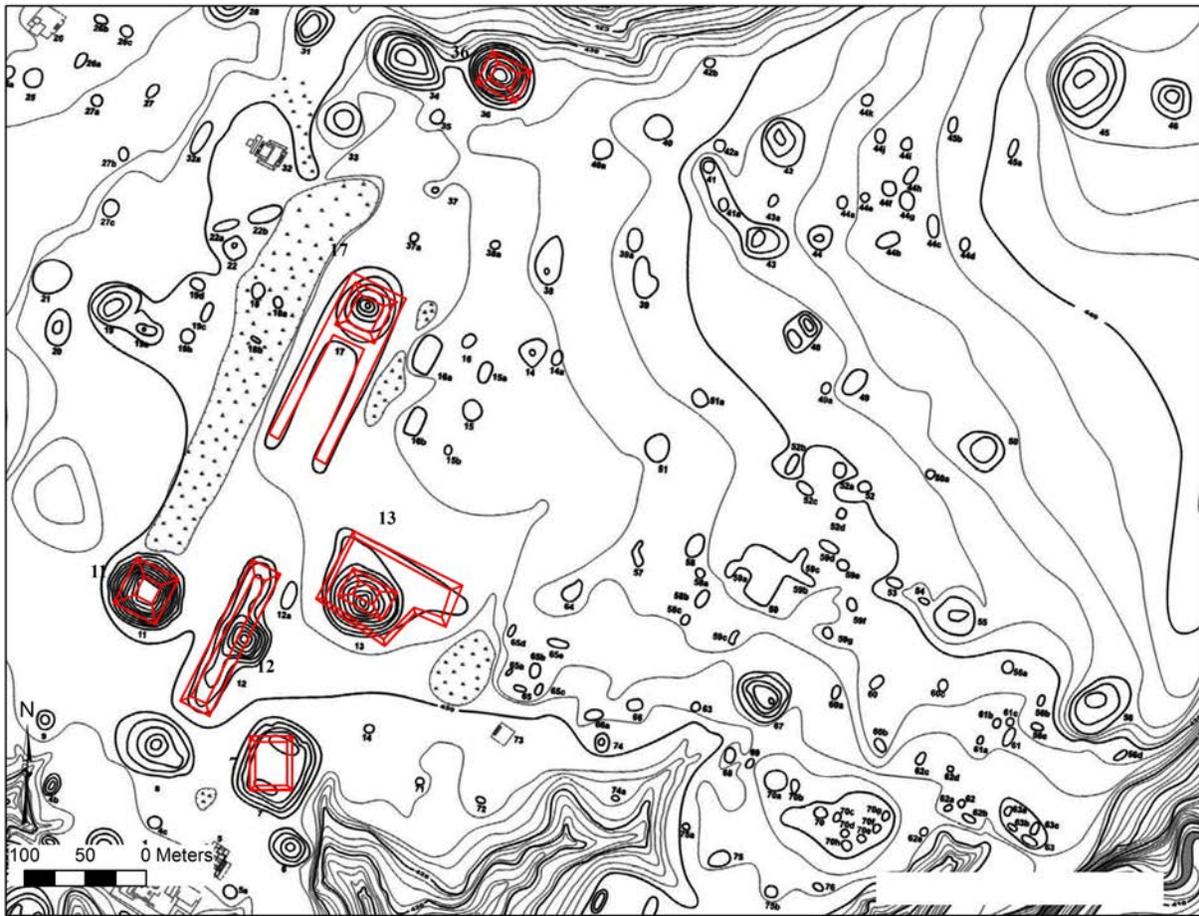


Figure 5. Chiapa III structures at Chiapa de Corzo.

David Cheetham and Thomas Lee interpreted Mound 17 as an elite residential platform (2004). If they are correct, then the construction of this mound may have placed the residential locus of the ruling family in the center of the civic ceremonial zone, and the processions that took place here may have revolved around the ruler's residence.

It is also notable that Mound 17 at Chiapa de Corzo was originally constructed with two flanking 70 cm tall platforms, that extended about 100 m. to the south of the southern face of the platform (see Figure 5), creating an enclosed a space with an area of about 3,200 m², and a potential capacity of

2,130 people (also more than the entire estimated population of the settlement Chiapa de Corzo during this phase). The dimensions of this space would have been more amenable to the viewing of public ritual performed on the Mound 17 platform. Nonetheless, the low height of the flanking platforms suggests that whatever activities took place within this space, they were visible to people standing outside.

La Venta's modest and now destroyed Mound B-4 (see Figure 2) may have served a similar function to Chiapa de Corzo's Mound 17 at some point in the site's trajectory as a political center. However, in

contrast to Chiapa de Corzo and Middle Formative sites in the Chiapas Central depression, at La Venta the elite appear to have established a ceremonial space that was more restricted both visually and in terms of access in, the form of Complex A, located to the north of Mound C-1 (Gillespie 2008; Reilly 1999).

Reilly (1999) interprets La Venta's complex A as representing the watery underworld. There are no analogues in the position of La Venta's Complex A in any of the sites with MFC patterns in and around the Chiapas Central Depression (Clark 2001: 185). Nonetheless, artificial reservoirs have been identified in Chiapa II and III contexts at Chiapa de Corzo, to the southeast of the E-Group (Bachand et al. 2008: 77; Lowe 1962: 56), at La Libertad, to the east of Mound 3 (Miller 2014: 68-69), and in Chiapa III contexts at Ocozocoautla directly east of the E-group (McDonald 1999: 62). It is possible that at these sites a representation

of the watery underworld was incorporated into the processional ceremonial route, in a much more public space than at La Venta. In support of this interpretation, at Chiapa de Corzo this reservoir was turned into a cemetery during the Chiapa IV period, suggesting the space's continued association with death and the underworld.

Judging from dimensions alone, other sites in the Chiapas Central Depression could be interpreted as having taken the placement of Chiapa de Corzo's Mound 17 as the northern boundary of the ceremonial precinct (**Figure 6**). Still, despite the closer similarity in plaza dimensions between that defined for the Mound 17-E-Group arrangement at Chiapa de Corzo, the placement of these mounds on the northern boundary of ceremonial precincts suggests that they had different ideological significance, and served a different role in processional ceremonies than the Mound 17 platform.

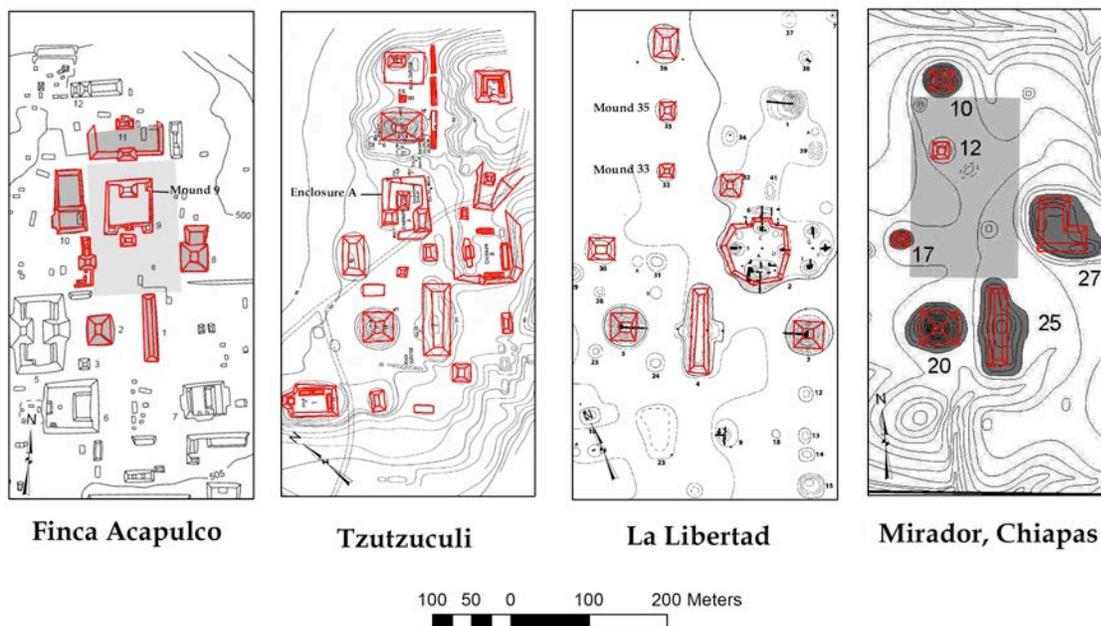


Figure 6. Middle Formative Chiapas complexes with analogues to Chiapa de Corzo, Mound 17. (base maps modified from Clark 2016)

At Chiapa de Corzo the northern mound of the MFC complex, Mound 36, continued to be expanded in Chiapa III and IV, indicating that the Mound 17 platform was situated in the center of processional ceremonies throughout the Middle Formative rather than serving as the northern mound in a truncated version of the original plaza. Analogues to the Mound 17 platform are present in Mound 9 at the earlier site of Finca Acapulco (Clark ca. 2016: Fig. 16), Enclosure A at the coeval site of Tzutzuculi (Clark ca. 2016: Fig. 2; McDonald 1983: Fig. 2), and possibly in the somewhat diminutive Mound 12 at Mirador (Agrinier 2000: Fig. 1) and one of the two low mounds (Mounds 34 and 35) in the northern plaza at La Libertad (Miller 2014: Fig. 2.2). An equivalent candidate for central residential platform appears to be absent at the site of Ocozocoautla.

The construction of an elite residential platform at Mound 17 in Chiapa III implies some important changes in the structure of Zoque processional ceremonies. I would suggest that during the Chiapa III period, participation in certain aspects of processional ritual became more specialized and restricted to a limited group of people within the plaza in front of Mound 17. There is no evidence, however, that limitations were placed on the ability of the public to view these activities, such as the construction of palisades on the flanking arms of the platform. Indeed, the observation of the rituals that took place in this space by the public at large was likely a key aspect of establishing and maintaining legitimacy of rulership (although, as Inomata has pointed out [2015], whether the maintaining legitimacy was part of the intent of rulers remains an open question). Nonetheless, this shift suggests that rulers

may have been performing the role of a central intermediary with aspects of the cosmos that were not accessible to commoners. This alteration may reflect a change in the perception of rulers as associated with the *axis-mundi* (Reilly 1990, 1995; Reilly et al. 1994). At some sites, in the Chiapas Central Depression, such as Ocozocoautla, this change in the organization of processional ritual, and correspondingly, in the status of rulers, appears to have been rejected. At other sites, such as La Libertad and Mirador, the Mound 17 analogues are very small and may have served a similar symbolic purpose, but without high-status functionaries residing on the platforms.

The Chiapa II configuration at Chiapa de Corzo, without Mound 17, could easily accommodate the structure of Tzotzil Maya ritual at the contemporary town of Chamula described by Gary Gossen: “Chamula cosmological symbolism has as its primary orientation the point of view of the sun as he emerges on the eastern horizon...north on his right hand, south on his left hand” (1972: 119). Gossen uses this logic to explain among other things, the normal path of Chamula processions out of the west facing entrance of the church, towards the north, and completing a counter-clockwise circuit. These processions “follow the path of the sun” starting in the east or southeast, moving to the center of the sky (north), then descending to the west, and into the underworld (south) (1972: 119-121). This cosmological framework appears to be shared by the Tzotzil of Zinacantan (Vogt 1977: 43), by the Tzeltal Maya of Cancuc (Pitarch 2010: 196), and by the Yucatecan Maya. Friar Landa also described rituals that moved in counter-clockwise circuits at the Postclassic Maya settlement of Sotuta, and

for colonial period Itzamal (Solari 2014). Counter-clockwise ritual circuits are also observed in contemporary Zoque ceremonies in Copoya, Chiapas (YoSoyELNAGUAL 2012), and in Ocozocoautla, Chiapas (Alain 1989).

If processional ceremonies at Chiapa de Corzo during the Chiapa II period followed this highland Maya cosmological framework, processions may have been initiated at the acropolis (Mound 13), and moved to the right (the northeast) toward Mound 36, then following the path of the sun, moved to the south around the E-group (Mounds 11 and 12), to the south of the reservoir (again, a possible representation of the watery underworld) and completed the circuit, moving to the northwest back to the acropolis.

If the addition of an elite residential platform in the center of the ceremonial precinct in Chiapa III (Mound 17) marked a new locus for the start of processions, then the rules of highland Maya ceremonial structure would be violated. As Mound 17 and its flanking arms faced south, starting a procession from this mound and moving to the right would direct the procession towards the southwest on a path that would first pass through the symbolic watery underworld of the south, around the E-Group and the reservoir, before moving through the symbolic path of the rising sun.

To engage briefly in some wild speculation, the elites residing on Mound 17 may have had a different, more stationary role in processions than their Chiapa II predecessors, performing rituals in their role as the *axis-mundi* while lower tier elite and commoners engaged in processions following the symbolic path of the sun around them.

It should be kept in mind that first stages of Mound 7, located to the southeast

of the E-Group (see Figure 5) were also constructed during Chiapa III, creating a 2 m tall platform (Lowe 1962: 45). The Chiapa III stage of Mound 7 was oriented to 7° east of true north (declinated from Lowe 1962: 46 using NOAA [2013]), rather than the dominant Chiapa de Corzo architectural orientation of 28° east of true north.

Precisely why it was built with this unusual orientation is not known. Michael Blake's analysis of the Chiapa de Corzo E-Group (2013) demonstrates that neither equinoxes nor solstices pass over the southern end of the E-Group. At the later E-group configuration at Caracol (Chase and Chase 1995: 95-97), there is a structure located directly to the southeast of the E-Group with a similar deviation from the dominant site orientation. The Caracol structure is located adjacent to, and parallels what appears to be a canal that led from the E-Group to a reservoir (Chase et al. 2013: Fig. 15.11). We do not know if the Chiapa III stage of the Mound 7 construction had stairways facing north or east, as excavations on these sides of the mound did not reach Chiapa III constructions. We do know that it had a western stairway that faced the reservoir (Lowe 1962: 45). As such it may have served some role in facilitating interaction with the forces of the underworld. Mound 7's break from the dominant orientation of the site may have marked a new starting point for processional rituals, with the movement of participants off the north edge of this mound marking the change of meaning of the ceremonial space from profane to sacred.

The experience of a procession through the site of Chiapa de Corzo in the Chiapa II and III periods would have been considerably different from what is possible today, with the mounds covered in grass

rather than tamped clay, which was likely painted. The Nestle plant enclosure occupying the footprint of Mound 17 and impeding access around the ceremonial zone has also substantially altered the space. The clay surfaces of platforms and pyramids of Chiapa II and III would have amplified the sounds of whatever musical instruments accompanied processions, which would have included whistles, ocarinas, flutes, and trumpets (Lee 1964:66-70). Rattles and drums were likely utilized as well (although these instruments have not been securely documented in artifacts or imagery at Chiapa de Corzo), which would have echoed off these constructions, creating an otherworldly atmosphere.

The use of colored clay or paint to decorate structures is known for the Middle Formative (Boone 1989:53; Drucker 1953:23, 36, 38, 42), and it is likely that the designers of the spaces at Chiapa de Corzo during these periods decorated the exteriors of their constructions. While the very large civic-ceremonial zone at Chiapa de Corzo may have been used for mundane activities, the colors of the structures would have contributed to the performative effect of the space as a conduit to other planes of reality. Furthermore at least some of the participants were likely costumed and masked as deities, as is frequently manifested on Middle Formative Olmecoid iconography. All of these factors contributed to the effect on participants and observers of processional (and non-processional) ceremonies that took place within these spaces.

Late Formative Transitions

By the beginning of Late Formative period there is evidence for disruption of the regional political landscape. Upstream from Chiapa de Corzo, there appears to have been

While the Chiapa III construction of Mound 17 would have interrupted sightlines towards Mound 36 from the southern parts of the civic-ceremonial zone, the Chiapa III, its 1.3 m height would not have blocked the view of the 5.6 m tall northernmost mound from most of the site, although its superstructure would have increased its height. Even so, the position of Mound 17 did not interfere with the sightlines between Mounds 7, 13, or 11, and Mound 36. Proceeding from either Mound 7 or Mound 13 to the north, the shape of Mound 36 is echoed by the Cerro El Zapote (see Figure 3), located to its north. Turning southwestward from Mound 36 in Chiapa II the procession would have had an unimpeded view to the E-Group, and through that, to whatever vegetation surrounded the reservoir on the south end of the ceremonial precinct. In Chiapa III the Mound 17 platform, even with its relatively low height, would have effectively blocked the view from the base of Mound 36 of the reservoir area until the party reached the western flanking platform of Mound 17, at which point this watery area would have been visible between Mounds 11 and 12 of the E-Group. In both phases the full reservoir area would not have been visible until passing the E-Group, which while not surprising to any of the participants very likely would have had an emotive effect, given the otherworldly context of the processional ceremonies.

a hiatus in mound construction during Chiapa V, and settlement appears to have been relatively light in Chiapas VI (Bryant et al. 2005: 6). In the Upper Central

Depression many sites were abandoned or relocated to more defensible locations (Bryant and Clark 1983: 226; Bryant et al. 2005: 265; Lowe 1999: 86). We also currently have no evidence for the initiation of new E-group construction in the Chiapas Central Depression during these periods. Upstream from Chiapa de Corzo, the sites of La Libertad and Finca Acapulco were abandoned (the latter toward the end of Chiapa III [Clark 2016]). On the Pacific Coast and in the western Central Depression, respectively, the sites of Tzutzuculi (McDonald 1983: 67; 1999: 57) and Vistahermosa (Treat 1986: 16-20) were abandoned.

At the centers that survived, we see a greater degree of variability in the organization of civic-ceremonial space than was present in the Middle Formative. At Chiapa de Corzo the focus of construction during Chiapa V and VI shifted notably towards an emphasis on building to the

south of the E-Group (**Figure 7**). The first stages of Mounds 1 and 1a were begun during Chiapa V, each of which employed masonry architecture, which was relatively new and uncommon at Chiapa de Corzo at the time. Two-room temples were also constructed on Mounds 1 and 1a during Chiapa V (Agrinier 1975: 14; Lowe and Agrinier 1960: 17-18). The first (relatively modest) stages of Mound 5 were constructed on the eastern side of this plaza (Lowe 1962: 7), and Mound 8 was expanded during Chiapa V. These constructions resulted in the formation of a southern plaza measuring approximately 90 m N-S by 60 m E-W, with an area of about 5,400 m² and a capacity of 3,600 people. The potential capacity of this plaza is still very generous relative to the population of the settlement of Chiapa de Corzo, during this period estimated at 1,640, but could no longer hold the entire population of the polity, estimated at 13,300 (Sullivan 2009: 201, 2015).

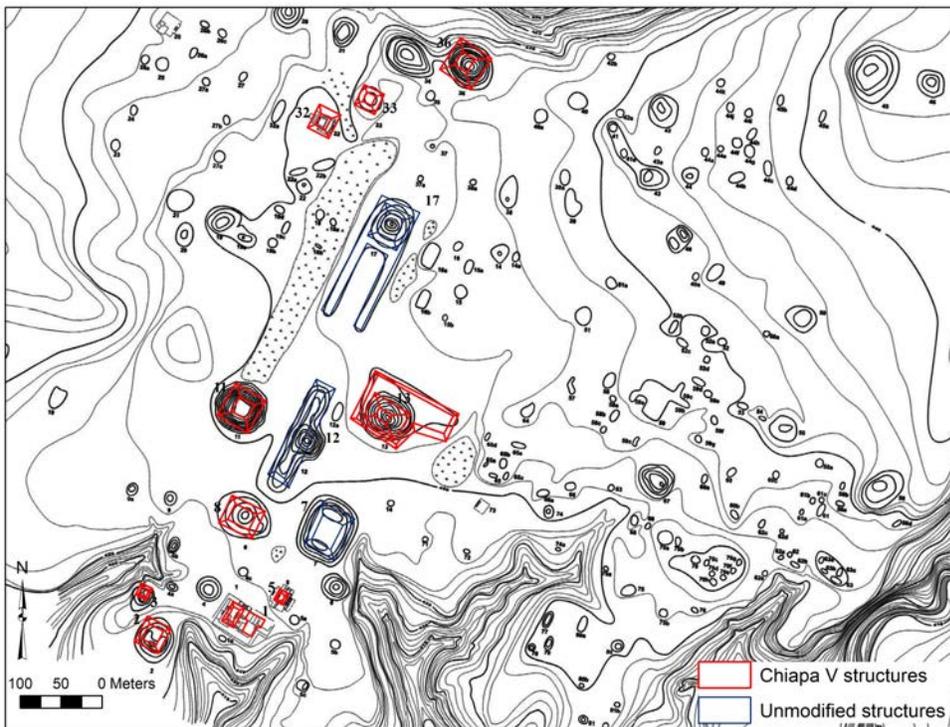


Figure 7. Chiapa V structures at Chiapa de Corzo (earlier structures unmodified in this phase outlined in blue).

More importantly, the dimensions of this space would have allowed for relatively intimate performances by the royals. The visual limitations from the main body of the settlement to the east imposed on this space by the presence of Mound 7 (which was last expanded during Chiapa IV, and apparently not altered during Chiapa V or VI [Lowe 1962: 47], allowing for the possibility that it became overgrown, further limiting visibility), and the limitations on accessibility imposed by the gully behind Mound 5, would have made this space less accessible by commoners than the MFC complex to the north.

Additionally, this new space with its cut-stone and plastered surfaces would have had distinct acoustics from those of plazas with clay-faced structures. The intensity of reverberations would have been greater, allowing for the possibility that while commoners may have been excluded from viewing many of the ceremonies taking place in the new plaza area, they may have heard the music and commotion accompanying these ceremonies at a greater volume than with the earlier, more accessible areas. While it is possible that this effect was an unintentional consequence, Steven Houston and Karl Taube have pointed out that at least by the Classic Period, there is evidence that the Maya had developed an understanding of the acoustic properties of architecture (2006:259).

By Chiapa VI, with the construction of the Mound 5 palace (Lowe 1962: 7), the E-Group at Chiapa de Corzo had been fully integrated into a pattern that is frequently repeated at sites in the Maya Lowlands. This pattern consists of a north-facing temple complex to the south of the E-Group and a palace to the southeast of the E-Group, forming a relatively enclosed royal plaza. This pattern is present at Late Formative E-

Group complexes in the Maya Lowlands, such as the Leon group and Acropolis at El Mirador (Šprajc et al. 2009: Fig. 2), the E-Group at Calakmul, Mexico (Folan 1992: Fig. 3), and the E-Group Plaza (along with the South Pyramid and Group III) of Cival (Estrada-Belli 2011: Fig. 4.1) in the Peten, among others (**Figure 8**). This pattern is evidently absent in the E-Group configurations of Ceibal (Inomata et al. 2013: Fig. 3), Tikal (Sharer and Traxler 2006: Fig. 4.5), El Palmar (Doyle 2012: Fig. 2), and Uaxactun (Ricketson 1933: Fig. 3), among others.

It is worth noting here that the engraved stone referred to as Stela 2 at Chiapa de Corzo, which has one of the earliest long count dates yet known in Mesoamerica (36 BCE), was not in fact part of a stela, but rather part of the architecture of the Mound 5 palace (Perez de Lara and Justeson 2006: 8). As such it is very possible that the information conveyed by this feature was not visible from outside of the structure. Even if it did decorate an external part of the structure, its placement on the Mound 5 palace would have made its audience more restricted than if it had decorated a stela placed in the less restricted access northern plaza. This is a further line of evidence that rulers were interacting at least in some aspects, with an increasingly limited audience. These lines of evidence suggests that the new southern addition to the ceremonial complex created a space for ceremonies involving a relatively restricted group of elite at the site.

The Chiapa V version of the Maya E-Group pattern may be repeated at Ocozocoautla, as there are two mounds to the south of the E-Group (Mounds 19a and b), however neither of these mounds have been excavated, and we consequently do not know when they were built or what kinds of

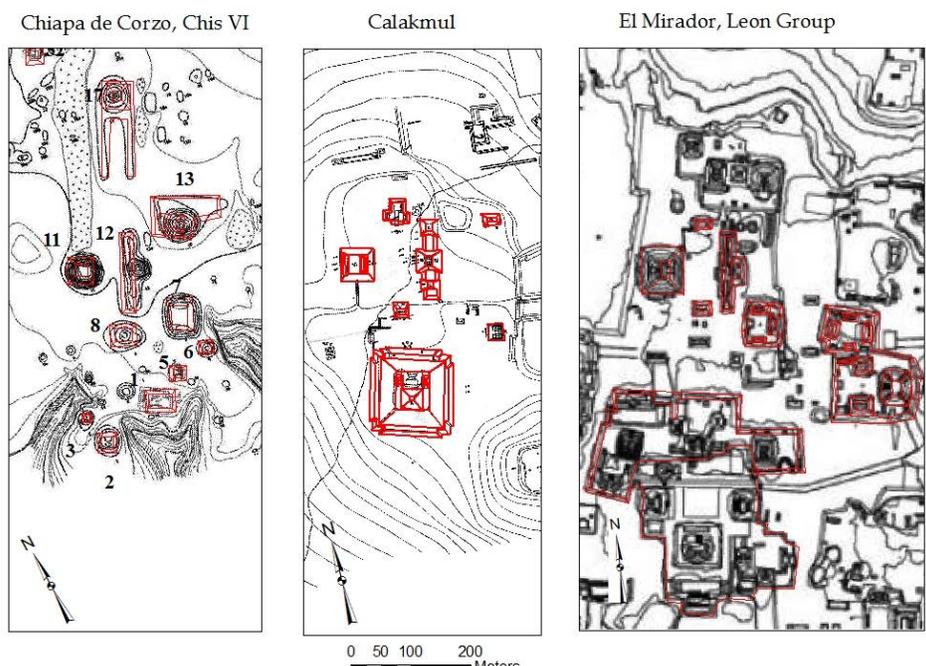


Figure 8. Chiapa VI constructions in the southern ceremonial precinct at Chiapa de Corzo and Late Formative Lowland Maya E-group configurations. (Calakmul map after Folan 1992; Mirador map after Dahlin 1984: 20-21)

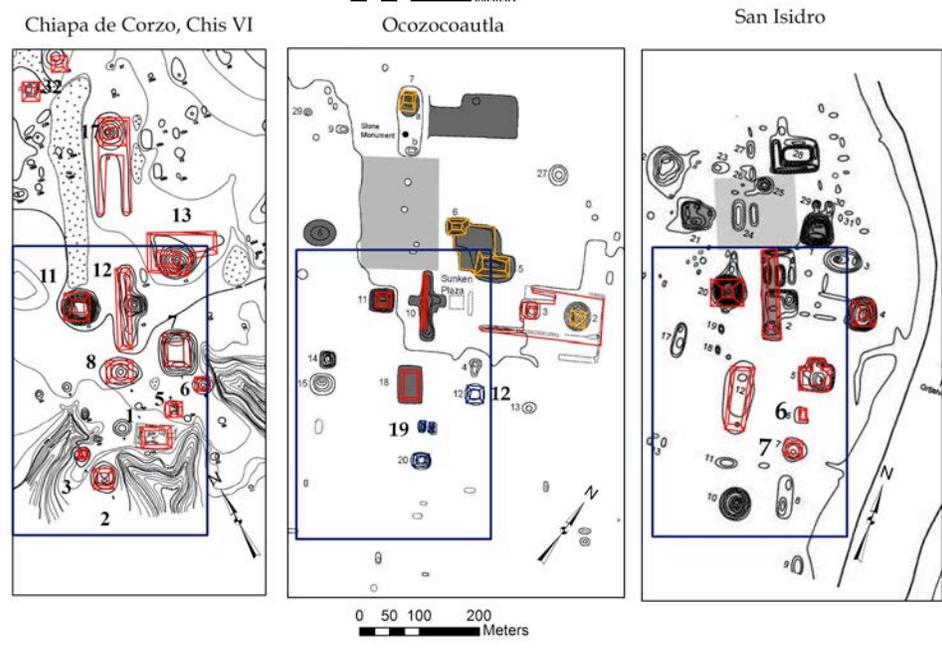


Figure 9. Late to Terminal Formative E-Group arrangements from in and around the Chiapas Central Depression.

superstructures they supported. Ocozocoautla's Mound 12 is situated roughly in the location of Mound 5 at Chiapa de Corzo, but again, this mound has not yet been excavated. Ocozocoautla's Mound 18, the first stage of which was constructed in Chiapa III (McDonald 1999: 62) appears to be a somewhat expanded analogue of the Chiapa IV Mound 8 at Chiapa de Corzo (**Figure 9**).

At San Isidro, which was occupied through Chiapa VI (Lowe 1998: 38), Mounds 6 and 7 at the southern end of the civic-ceremonial complex are potential candidates for analogues to the southern complex at Chiapa de Corzo. However, this interpretation will remain speculative for the foreseeable future, as these structures were not excavated during the salvage investigations at San Isidro (Lowe 1999; L. Lowe 1998), and now lie deep beneath the waters of the Chicoasen dam.

There are two very notable differences between the Late and Terminal Formative layouts of Chiapa de Corzo and possibly the layouts of Ocozocoautla and San Isidro, with those of the Maya Lowlands. First, the triadic architectural elements that are ubiquitous at the Late Formative sites in the Mirador Basin, and common elsewhere in the Maya Lowlands (Hansen 1998: 75), are apparently absent at Chiapa de Corzo, Ocozocoautla, and San Isidro. Second, at contemporary Maya sites, temple and palace complexes associated with E-Groups are generally located directly to the south of the E-group, while at Chiapa de Corzo and possibly at Ocozocoautla and San Isidro they are positioned to the southeast of the E-group. These differences may indicate the persistence of certain Zoque cosmological conceptions of space from the Middle Formative and a rejection

of certain Lowland Maya cosmological concepts.

We should also not ignore the fact that construction, burials, and/or caching continued on Mounds 11, 12, 13, 17, 32, 33, and 36, in the older northern precinct at Chiapa de Corzo. This continued construction and maintenance indicates that while the meaning and content of processional ceremonies was altered by the creation of a more restricted space at the southern end of the ceremonial precinct, at least certain aspects of older processional rituals continued to be practiced, visible to the public, and possibly involving the participation of the non-elite.

The adoption of this architectural configuration with Maya roots was uncommon throughout the Chiapas Central Depression and its vicinity during the Late and Terminal Formative. It is absent at the site of Mirador (Agrinier 2000: Fig. 1). It is also absent at the small Middle Formative through Early Classic site of El Cielito, which has two small E-Groups (Navarrete 1960: Fig. 2), and at the E-Group at the site of Santa Rosa in the Upper Grijalva region (Brockington 1967: Fig. 1; Delgado 1965: 33-34). Neither El Cielito nor Santa Rosa appear to have an MFC template. It is also notable that there is as of yet no evidence for new E-Group construction in or around the Chiapas Central Depression from the Late Formative through Early Classic periods (Lee et al. 2015; Lowe 1959; Lowe 1998; Navarrete 1960). The scarcity of these Lowland Maya and ancestral Zoque architectural templates may indicate a general lack of involvement with, or a rejection of geopolitical trends and their accompanying ceremonial traditions that appear to have been adopted by the elite at Chiapa de Corzo, and possibly at Ocozocoautla and San Isidro.

Discussion and conclusions

For the period when the MFC complexes made their first appearance in the Central Depression, we have little evidence for strong social divides between elites and commoners (Sullivan 2015). The individuals responsible for the design and construction of these spaces very likely had a greater, or different understanding of cosmological forces than commoners, as well as a wider geographic network of political relationships with individuals with similar sets of knowledge. Nonetheless, the initial layout of these civic-ceremonial spaces suggest that the opportunity for active participation of commoners may have been a key selling point in mustering the labor for constructing and maintaining these novel ceremonial spaces. These new arenas for ritual performances would have provided the opportunity for certain groups and individuals to gain a reputation for privileged ties to cosmological forces through sponsoring, leading, and participating in processional ceremonies. While we do not know the extent to which the evolution of this special status allowed elites to exclude groups or individuals from social, economic or political advancement, processional ceremonies would appear to be a venue in which the development of structural power, *sensu* Wolf (1990: 586, 590-591) could take place, thereby justifying the gradual expansion of social and political inequality.

If a group of individuals gained recognition as privileged intermediaries with different levels of the cosmos, reflected in the establishment of an elite residence on Chiapa de Corzo's Mound 17, and Finca Acapulco's Mound 9, this elevation in status would have facilitated the ability of this group to exercise power in other facets of

life. Whether through small-scale practices which the Spanish at contact understood as witchcraft (Aramoni 2014: 27-66), or through the broader ability to influence the coming of rainfall or the generosity of the earth deities.

None of these population centers was operating in a vacuum, and interactions between the elite from different centers was likely an important factor fueling the elaboration of ceremonies, and establishing the permanence of a class of elite. Still, the commoner population does not appear to have been excluded in any meaningful way from processions until Chiapa V. This lack of exclusion suggests that commoners were part of the intended audience of these ceremonies.

By the Late Formative, we see evidence at Chiapa de Corzo, and possibly at Ocozocoautla and San Isidro, for the imposition by the elite of restrictions on public participation and access to important aspects of ceremonial activities through the construction of more restricted ceremonial spaces. While other aspects of processional ceremonies were maintained, and likely open to the view, and possibly the participation, of the wider public, the establishment of increasingly restricted and specialized ritual space, characterized by a less accessible and visible plaza, and by the introduction of two-room temples, south of the E-Group marked new social divisions within the polity. As I have discussed elsewhere, the burial data from Chiapa de Corzo also suggest increasingly pronounced social divisions, both between elite and commoners, and between rulers and lower tier elite (Sullivan 2013: 51-52; 2015). This restricted access was likely accompanied by a constriction of avenues for social or

economic advancement to the commoner population, and eventually the non-royal elite. While this exercise of structural power may not have been a principal motivation behind the organization of these spaces, it does appear to have been at least an unintended consequence.

With that in mind, we should not view the Late and Terminal Formative modifications of the Middle Formative civic-ceremonial spaces as marking a complete break with earlier processional rituals. Excavations at Chiapa de Corzo have demonstrated that the original northern MFC part of the civic-ceremonial complex continued to be modified and used during Chiapa V and VI. Nonetheless, whether it was the intent of rulers or not, the modifications to processional ceremonies, along with changes in the political and social structure of the center at Chiapa de Corzo were accompanied by population decreases in the city, at the same time that the regional population was rising (Sullivan 2009: 197-201; 2013: 52-53; 2015). These were the first population decreases the city had seen since its inception. If the conservation of earlier traditions was in part an attempt to maintain popular support of the regime, it does not appear to have been terribly successful, as many people appear to have voted with their feet and moved out of the city. On the other hand, if the goals of rulers included limiting the number of people in the city, to better control pathways to social and political advancement, the strategy may be viewed as highly successful.

It is significant that this trend of incorporating E-Groups into increasingly restricted ceremonial spaces does not seem to have spread throughout the Chiapas

Central Depression. This may have to do with greater levels of interaction between the elite of Chiapa de Corzo, Ocozocoautla, and San Isidro with the Maya Lowlands. Exactly why these centers rather than others would have had greater interaction with people from the Maya Lowlands is not clear, but may have to do with positions on communication routes and traditions established in the Middle Formative of long-distance exchange.

While survey data suggest that the population in the Chiapa de Corzo hinterland increased during the Chiapa V and VI (Late and Terminal Formative) periods (Sullivan 2009: 197-201, 2013: 53-53; 2015), elsewhere in the Chiapas Central Depression survey data from the 1950s and 1960s suggest a decline in the number of occupied sites (Bryant et al. 2005: 6-7; Lee et al. 2015; Lowe 1959; Navarrete 1960; Peterson and Clark 2014).

It may be that a prolonged drought, which in the semi-arid Chiapas Central Depression would have had devastating effects on farming communities, caused the abandonment of many sites out of necessity. This form of crisis would have likely undermined the confidence of commoners in the ability of their rulers and their rituals to successfully placate the cosmological forces responsible for rainfall. Variability in architectural configurations within the area may reflect different responses to this cosmological and ideological crisis. Yet the fact that a variety of population centers weathered this crisis with an array of responses in the organization of ceremonial space provides some interesting avenues for future research in the Chiapas Central Depression.

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Notes

¹ This is speculative: only one test pit was excavated into Mound 2, and produced predominantly Late Classic

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Location and Orientation of Teotihuacan, Mexico: Water Worship and Processional Space

Susan Toby Evans

“Processions and pilgrimages produced a continuous movement that animated the landscape, thus we are dealing with fundamental ritual processes that created the sacred landscape.”

Johanna Broda, this volume

Introduction: The Cultural Ecology of Teotihuacan’s Placement

In this paper, the ritual practice of procession is argued to have provided an impetus for the location and orientation of the ancient city of Teotihuacan within its environmental context, the Teotihuacan Valley. Cultural ecology and ethnohistory will illuminate the rich corpus of information about the city’s development and the valley’s geographical features, and suggest that the city’s topographical situation was generated by its regional landscape and the needs of its planners to urbanize the site while supporting a growing population, which involved increasing agricultural productivity and intensifying the propitiation of fertility deities. Teotihuacanos maximized crop production in their valley’s different growing zones, while gridding their city with processional avenues and arenas. These features, and the many depictions of procession in murals found throughout the mature city, suggest that processions were a strong component of the city’s ritual behavior honoring the sacred intertwined principles of water, fertility, and time. Processions heightened public experiences of solidarity and piety by the immediate connection among the celebrants and with surrounding mountains and water features.

The city’s planners fine-tuned Teotihuacan’s orientation and location to resonate with its natural environment, the

Teotihuacan Valley, as well as with the city’s cosmological setting. The grid’s orientation addressed practical problems such as grading and drainage while it maximized ardent efforts by worshippers to connect with the living world they revered: the same urban plan that channeled psychic energy toward sacred elements of the environment also channeled water and waste through the city and onto agricultural fields.

Supporting the idea that the city’s orientation and location were deliberate adaptations to the Teotihuacan Valley, and that processions were a vital component of calculations to insure continued fertility, evidence is drawn from:

- the Teotihuacan Valley’s natural environment and potential for settlement and crop production;
- Teotihuacan’s history of urban development, the chronological context of
 - the Teotihuacan experience of *time*, particularly the relationship between *water worship and the agrarian year*, and on the city’s role as the place where time began;
 - water- and fertility-worship *rituals*, including processions, as suggested by the *ethnohistory* of the contact-era Central Highlands of Mexico; and
 - Teotihuacan’s *mural paintings*, as they depict processions and water worship.

Teotihuacan Valley Natural Environment and Cultural Potential

Teotihuacan's culture and developmental trajectory can only be understood from the context of its natural environment. Most immediately, the city lies in the middle Teotihuacan Valley, mostly on the lower piedmont (**Figure 1**), the northeastern arm of the Basin of Mexico¹ in the Central Highlands of Mexico, which is a set of high-altitude basins and valleys critical to the Mesoamerican culture area for at least the last two thousand years (**Figure 2**).

With its chilly dry climate and high altitude, the Teotihuacan Valley is an unlikely setting for one of the ancient world's most luxurious cities. Teotihuacan's success lay in a continuous culture-ecological process of adaptation to changing conditions wrought by the steady increase of the city's population to the time of its maturity, and mastery of the valley's hydrological potential.

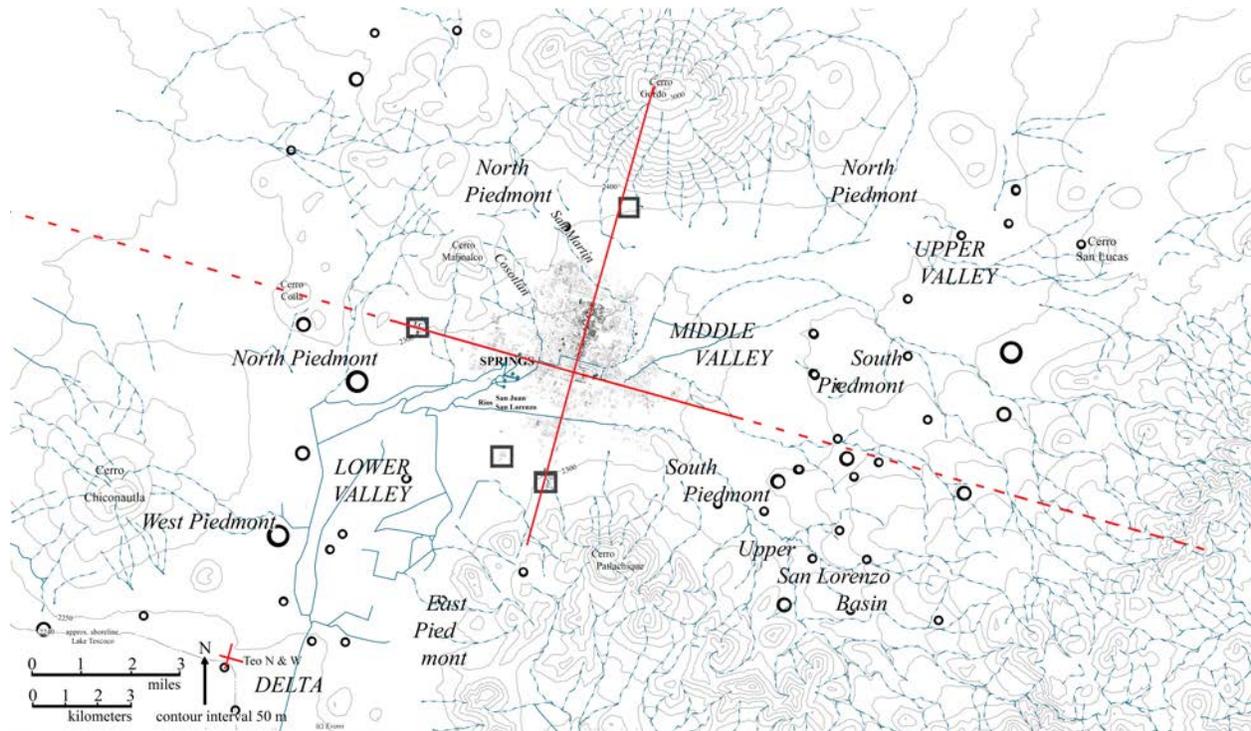


Figure 1. The Teotihuacan Valley is defined by its drainage pattern, and most of the valley's streams were situational. The drainage lines of the lower valley are largely based on recent maps, such as Mexico's Cetenal series, but much of the canalization is as ancient as the city of Teotihuacan. Green dots mark the most important remaining springs. Black circles and squares are settlements contemporaneous with the mature city, located by the Teotihuacan Valley Project. The city's map (Millon et al. 1973) is superimposed, and Teo North and Teo West orientations are marked in red. Maps and plans in this article are oriented toward true north. (map by S.T. Evans based on Cetenal maps, Sanders 1965, Fig. 3, 1996a, Fig. 242, and Millon et al. 1973)

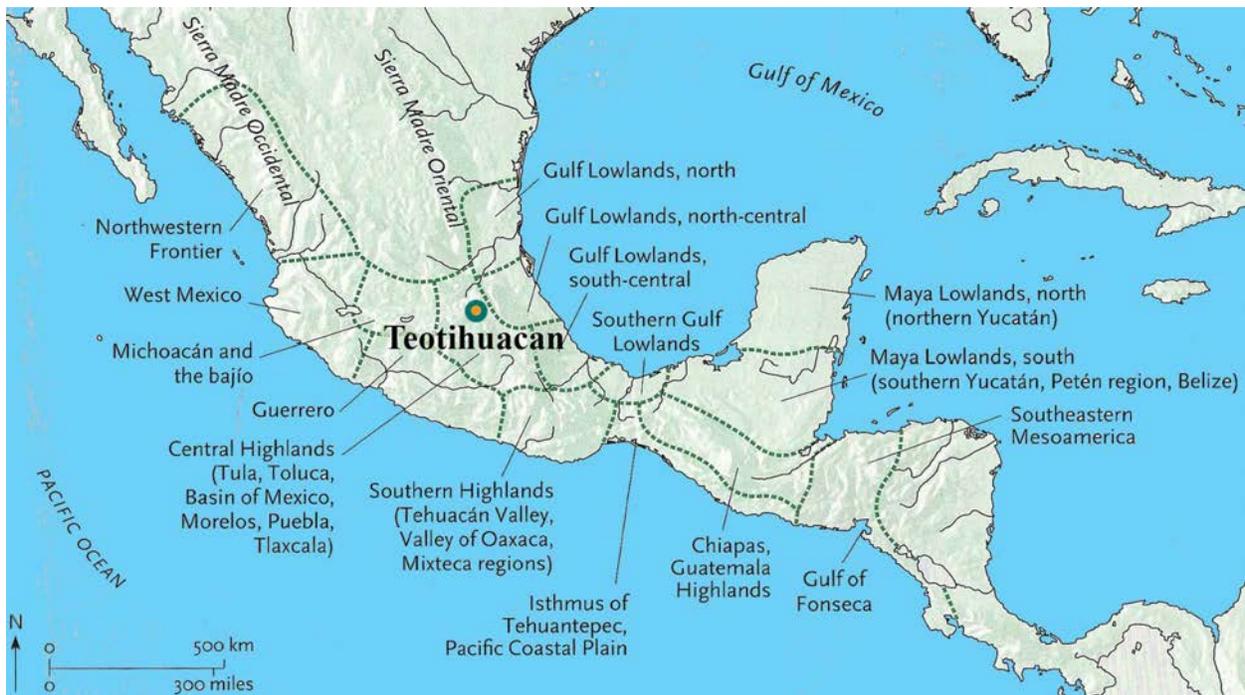


Figure 2. Mesoamerica, showing the Central Highlands and Teotihuacan, as well as other major regions. (adapted from Webster and Evans 2013: 597)

Topography

The valley's area of about 500 square kilometers (nearly 200 square miles) is defined by the drainage patterns of two rivers, Río San Juan and Río San Lorenzo. They flow southwest into Lake Texcoco, the great central lake of the ancient Basin of Mexico (see Fig. 1). From the Teotihuacan Valley's lakeshore (ca. 2240 meters above sea level; 7,349') northeast to the upper valley plain (ca. 2400 masl), a distance of about 20 km (12 miles) covered several distinct zones (**Figure 3**). The valley's eastern boundary of low hills separates it – and the Basin of Mexico -- from the Plain of

Apam and drainage (and travel routes) toward the Gulf of Mexico.

Many of the hills in the Teotihuacan Valley are eroded volcanic cones, reminders that the valley was carved out of a Pleistocene landscape of active volcanoes by the cumulative effects of many thousands of storms throughout many millennia. With the onset of modern climate conditions about 10,000 years ago, rainfall became a strongly seasonal, summer phenomenon. During winter the land dried out, leaving the soil vulnerable to erosion when the rains returned (**Figure 4**). This gullied the slopes and deepened the soil on the alluvial plains.

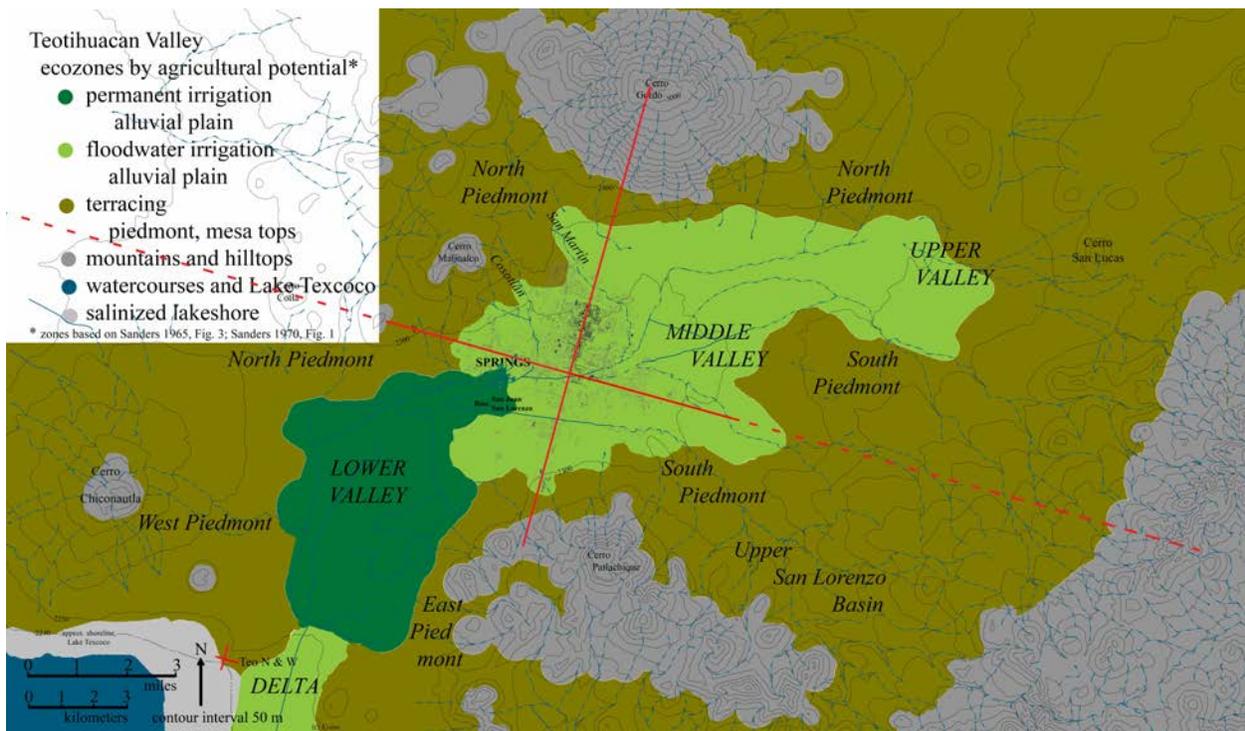


Figure 3. The valley's ecozones were broadly defined on the basis of the traditional agricultural practices associated with different areas: the irrigable alluvial plain, the piedmont zones where terrace cultivation could be sustained, and mountains, shoreline, and lake. (ecozone map by S.T. Evans adapted from Sanders 1965, Fig. 3; Sanders 1970: 87, Fig 1; Sanders et al. 1975: 556, Figure 80)



Figure 4. Early summer rains transform a dry landscape into one gushing water into barrancas, as shown in this scene from the lower Teotihuacan Valley. (Teotihuacan Valley Project photo, 1961 [1982])

The Teotihuacan Valley landscape is dominated by its highest peak, Cerro Gordo, the eroded cone of a Pleistocene volcano (**Figure 5**). It rises to 3,050 masl (10,006') on the north side of the middle valley. The ancient city of Teotihuacan was situated on the lower south-southwestern slopes of Cerro Gordo, and the great mountain's southwestern outliers form a line of low hills that constitute the valley's northwest boundary and the city's western horizon. To the south of the city lies the lower valley plain receding down to Lake Texcoco, and

to the southeast, the profile of the Patlachique Range (**Figure 6**) is echoed by that of the Pyramid of the Sun.

In the distance, south of the Patlachique Range but not visible from the city, are the Basin of Mexico's great eastern mountains: Tlaloc, Popocatepetl, and Iztaccihuatl.

The Teotihuacan Valley's ring of hills grades down to an angle of repose in the slope of the broad piedmont zone that surrounds the set of step-wise alluvial plains stretching down toward the lake.



Figure 5. Cerro Gordo, seen from the southwest, from Cerro Malinalco, one of its outliers. The ancient city is beyond the photo, at lower right.

The contours of the gentle slope in the foreground are terraced, edged in maguery (*agave*), and they are perpendicular to the dark line of vegetation indicating the upper reaches of the Barranca Cosotlán, at Teotihuacan's western natural boundary. (Teotihuacan Valley Project photo, 1960 [357])



Figure 6. From the Moon Pyramid, the view south shows the Sun Pyramid echoing Cerro Patlachique, concatenating several water mountains, fictive and real. In the distance, the Feathered Serpent Pyramid (to the right of the Sun Pyramid's lowest tier) also offers a visual reiteration of the Patlachique range's western extension. In processions along the upper Street of the Dead, water mountains surrounded the celebrants. (Teotihuacan Valley Project photo, Dec. 17, 1963)

Hydrology

Teotihuacanos were preoccupied with the availability of water, as is obvious from their efforts to control the flow of this limited essential resource through their landscape, as well as from their ideology (to be discussed below), and by the imagery in their murals (Evans and Nichols 2016: 33-34). Long before their gridded city plan encompassed the permanent springs in the lower valley, Teotihuacanos focused on rainfall and how it circulated, apparently sharing the indigenous Central Mexican belief that all water was bound in a system of recirculation, with underground connections between mountains and the sea.

The Teotihuacan Valley's distinctive annual pattern of rainfall demands close attention by farmers. Average annual rainfall is low -- barely 550 mm (22") -- close to the minimum for rainfall-dependent cultivation of maize, the most important staple crop in the Central Highlands of Mexico. Furthermore, there is an "extraordinary range of rainfall from year to year (almost

100 percent)" (Sanders 1965: 24).

Permanent springs emerge at the northern edge of the lower valley alluvial plain. In the mid-twentieth century there were about 80 permanent springs (Sanders 1965: 23), irrigating an extensive lower valley area of drained fields. While some drainage canals near the springs have been dated to Teotihuacan times (Gamboa Cabezas 2000; Sánchez Sánchez 1982), efforts to date the system of drained fields have not yielded evidence of Early Classic exploitation (Gazzola 2009; González-Quintero and Sánchez-Sánchez 1991: 363; McClung de Tapia 2012: 153). Admittedly, tests have been limited and the lower valley has deep soils that have been subject to modification for centuries; for example, still obvious on modern maps (see drainage, Fig. 1), is Aztec period canalization of the lower valley's drainage, rerouting water to the northern Texcoco plain (Sanders et al. 1979: 387-389). Quite probably, the importance of floodwater irrigation (**Figure 7**) has been

underestimated (Mejía et al. 2016).



Figure 7. On the alluvial plain of the Teotihuacan Valley, level fields with embankments were flooded in the growing season, tapping runoff from surrounding hills by a series of canals. (Teotihuacan Valley Project photo)

Was administration of the springs important to Teotihuacan's early development? We know that by the beginning of the Early Classic period there is evidence of Teotihuacan state control over the springs and their use to irrigate the fields of the lower valley (Evans 2010a), to be discussed below. But while we lack good

settlement pattern data from the lower valley for this early period, the known hamlets elsewhere in the valley and the probable original drainage patterns suggest that a spring-based irrigation system could have been cooperatively maintained by local families (Carballo et al. 2014: 119-120, applying a model by Ostrom [2003]).

Climate and Annual Weather Cycles

Both temperature and rainfall follow similar gradients, producing a dry chilly winter followed by springtime warmth (highest temperatures in late spring) and, somewhat later, the onset of the rainy season

(Figure 8a and Figure 8b). Because rainfall lags behind temperature, the warmth of late spring can harm emergent crops if the rains do not appear promptly.

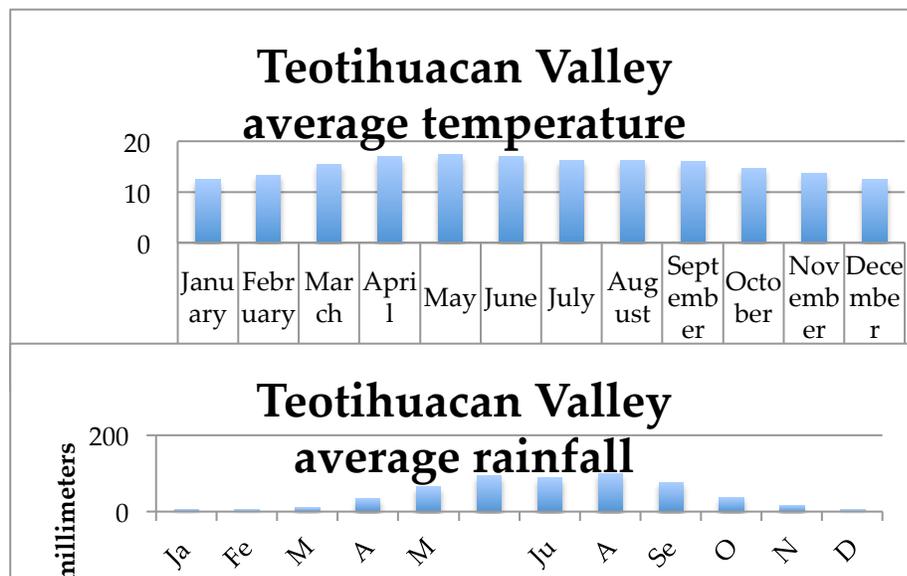


Figure 8a. Mid-20th century temperature values, in Centigrade. (based on Sanders 1965: 23-24).

Figure 8b. Mid-20th century rainfall values. (based on Sanders 1965: 23).

The valley's temperature, measured at the meteorological station in the archaeological zone in the 1960s, had an annual average high of about 15.5° Centigrade (about 60° Fahrenheit). The winter average high is about 12.4° C (about 54° F); summer average is just over 17° C (about 63° F). The moderation implied by these values masks considerable variation from year to year. In fact, frost is common

from September into April, occurring dozens of times. Very occasionally, it snows.

Rainstorms start in late spring and taper off by the autumnal equinox, and the histogram of annual rainfall in the mid-twentieth century demonstrates this strong seasonality. While the rain is concentrated in summer, it can also vary during these peak growing months, and July can bring a drought called a "canícula"² that can

threaten immature crops. The rainfall pattern also varies over the course of the day, with torrential storms on summer afternoons causing streams to swell. And when rainfall follows its established pattern, it falls so predictably that householders could readily divert runoff to irrigate their terraces as a simple and regular task.

The regularity of these daily and seasonal patterns would have influenced Teotihuacan's rituals toward annual rites to anticipate and celebrate the relatively regular and consistent changes in the natural world, in contrast to, say, propitiation of

Soils and Potential for Crop Production

On the next page, a panoramic photo of Teotihuacan and the middle and lower Teotihuacan Valley in the mid 1960s shows the view from Cerro Gordo looking to the south-southwest (**Figure 9a** and **Figure 9b**). It encompasses not just the ancient city, dominating the center view, but also its valley setting and the cultivation zones most important to the ancient city. The photograph gives a strong sense of the city's placement, its position anchored by a three-mound group of mountain effigies centered in a natural landscape of noticeable contrasts. The Street of the Dead is as obvious as the pyramids, and even at this distance we can discern its perpendicular, the canalized course of the Río San Juan. The river's course runs from the photo's lower left corner to the eastern edge of the city, where the Teotihuacanos canalized it, first at a diagonal to the city's grid, and then rectified so that its course ran straight along

unpredictably live volcanoes. From earliest settlement in the valley, rainfall was crucial to survival and shaped strategies for crop production. The upper valley plain has little available water besides rainfall, but the middle valley can, situationally, exploit the collective flows of several watercourses for seasonal irrigation to create more secure conditions for plant cultivation. The lower valley was buffered from variation in rainfall by the springs, but full exploitation of their potential was probably only fully realized when the city matured.

the upper edge of the Ciudadela and Great Compound, crossing the Street of the Dead. At the southwest edge of the city, the river has a long diagonal course toward Lake Texcoco as it moves through the lower valley downstream from the spring line, marked by green circles. In the upper right corner of the photo we see the remnants of the Basin of Mexico's central lake.

The panorama reveals several of the valley's characteristic environmental zones, each with a different potential for exploitation by indigenous cultures.³ The middle valley alluvial plain appears as a level rectangular grid of fields, left of center. This flat plain could be irrigated more readily than the piedmont slope, but in the upper and middle valleys it could only draw upon limited rainfall and downslope runoff, channeled through feeder streams of the two rivers. Most of the land in the photo was, in pre-Columbian times, challenging to farm.



Figure 9a. The lower middle and lower Teotihuacan Valley, looking south-southwest from Cerro Gordo. (photo by William Mather III for the Teotihuacan Valley Project, courtesy of William Mather III and Kirk French)

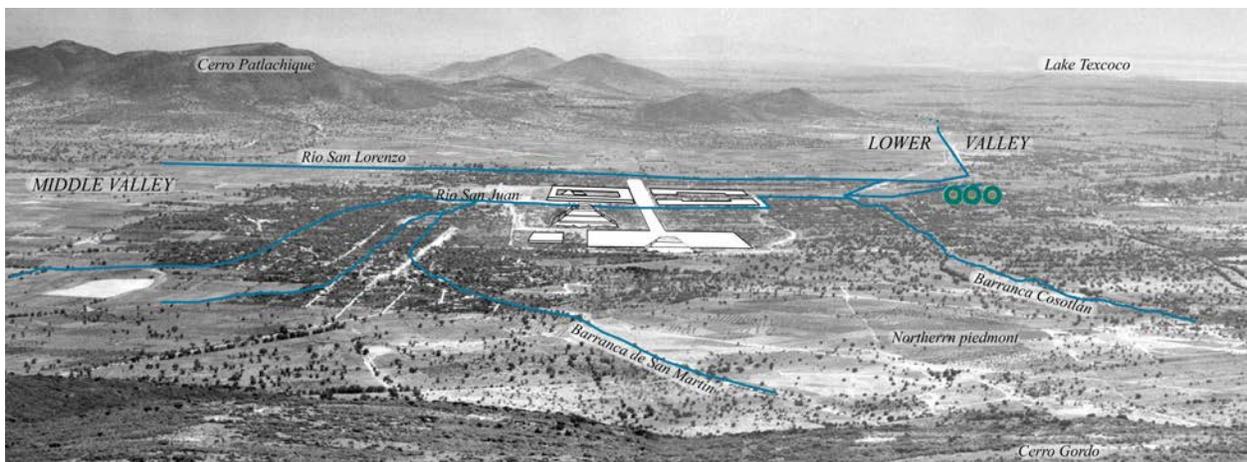


Figure 9b. Annotations of the valley’s features and major archaeological monuments. Green disks indicate approximate location of the springs.

Nevertheless, human ingenuity and considerable natural potential permitted populations in the Teotihuacan Valley to thrive as well as survive. In general, the valley’s soils are fertile and can sustain repeated cultivation without fallowing and are amenable to cultivation with pre-Columbian implements and techniques (Sanders 1965: 25). Soil depth in the lower valley can measure seven or eight meters, while the soils of the upper valley plain and

piedmont may be much less than a meter, or even completely eroded, exposing a subsoil base of *tepetate* (Nahuatl, meaning “stone-mat”) compacted volcanic ash “relatively impervious to water” (Sanders 1965: 24). Tepetate actually conserves water for cultivation when soil over it is sufficiently deep. Rainfall can be collected for later use in constructed ponds, called *jagüeyes* (Taino, pron. hahways).

Potable liquid for drinking was another essential resource. In Aztec times, a thousand years after Teotihuacan's apogee, fresh *agave* sap was a readily accessible beverage providing nutrition.⁴ There is iconographic and botanic evidence of agave use in Teotihuacan times, but archaeological evidence indicates that, as a well-integrated adaptive strategy, *maguery* (Taino, meaning "agave", pron. mahgay) terrace farming was brought into the Basin after the decline of Teotihuacan, by Coyotlatelco peoples (Cobean and Mastache 2010). Teotihuacanos probably met their potable liquid needs with a range of sources, including fresh water from the springs; the distances from the springs to homes up on

the piedmont were no greater than those in some ethnographically known populations.

Two thousand years of cultivation and natural cycles of erosion and regeneration of the Teotihuacan Valley's alluvial plains have inevitably resulted in changes in the landscape, but for most of that time, pre-Columbian farming methods were practiced and they were not deeply intrusive. Building on Manuel Gamio's encyclopedic study (1922), William Sanders's (1957) ethnographic research in the Teotihuacan Valley in the 1950s documented traditional farming methods – some essentially unchanged since pre-Columbian times -- and features of the landscape before modern methods like chisel-plowing wrought serious changes.

The Development of the City of Teotihuacan

The mature city, of, say, CE 400 was planned to a degree impressive in the ancient world; Teotihuacan's great processional ways marked out an orthogonal grid pattern followed by more than 2,000 buildings extending over 20 km² (8 miles²). The grid's orientation is not true north, but ca. 15°25' east of north. Nearly every street, civic building and house in the mature city closely conformed to this "Teo North" orientation, which was probably established with the second stage of the Pyramid of the Moon (the first known monumental structure at the site), about two thousand years ago. With the mature city's

orientation in place and with the Street of the Dead as its backbone, the civic-ceremonial center developed; the city grew and thrived for at least 500 years. But this plateau of prosperity began to erode with violent damage and burning of the ceremonial center, probably some time in the sixth century CE. This crisis of confidence in the city's power prompted a precipitous population decline. The remaining population lived in a few villages ringing the empty center. The largest, nearest the springs, became the new Teotihuacan, and today, as San Juan Teotihuacan, is still the local capital.

Early Settlement in the Teotihuacan Valley

Of all the regions of the Basin of Mexico, the Teotihuacan Valley was among the last to be settled, centuries after the southern basin, which had permanent villages in the Early Formative period (see

Sanders et al. 1979 for an overview). The southern basin was richer in readily cultivated farmland than the Teotihuacan Valley; it was far warmer and wetter, with about 1200 cm (48") of annual rainfall.

Population growth in the Basin eventually pushed colonization into the more marginal Teotihuacan Valley. The earliest known settlements are small “hamlets” (terminology of the Teotihuacan Valley Project [Sanders et al. 1979: 96]), often situated along the barrancas that cut down through the sloping piedmont zone of the middle valley. The early farmers probably enhanced the water supply to their fields by setting up check dams to divert rainfall runoff from the barrancas.

The city would grow up between two major barrancas: de San Martín (aka Piedras Negras), marking the city’s traditional northeastern boundary, and Cosotlán, which snakes southeast along the western edge of the city (see Figures 1 and 8). They both run northwest to southeast to intercept the Río San Juan, with the “Old City” lying uphill from the ceremonial center, according to René Millon (Millon 1973: 34; Millon et al. 1973: N6W2 and 3, N7W2 and 3).

This neighborhood may still bear traces of its original layout, which was probably terraced in contour with the slope, a pattern that has been found elsewhere in the city (Nichols et al. 1991) and that no doubt extended over the piedmont before the grid. Behind these contour terraces, deep and moisture-retentive soil would accumulate from the downhill flow of

rainfall, eroding soil, and household waste, a boon to farming and a problem when population densities rise and efficient runoff is desirable.

Like the piedmont gradient itself, the barrancas are oriented roughly between 20° to 30° W of N. These values become significant in considering the orientation of the city as it was planned and established, which was at a diagonal to this slope and its contours. Had the city continued to develop in conformance to the slope, its plan might have looked like **Figure 10**, a crude approximation of the evolved city (in contrast to a planned and engineered city). In the natural-contour city collage, ceremonial architecture has been arbitrarily arrayed just above the natural course of the Río San Juan just west of the Great Compound. The collage uses a true north orientation, as do the other figures in this paper, in an effort to keep in mind that Teotihuacan’s Teo North plan is “unnatural” and required serious civil engineering to create the ceremonial core, the grid, and the rerouted watercourses. The grid aligns nearly every wall in the city, and the significance of Teo North and Teo West would have been a matter of daily observance for the city’s residents and visitors.

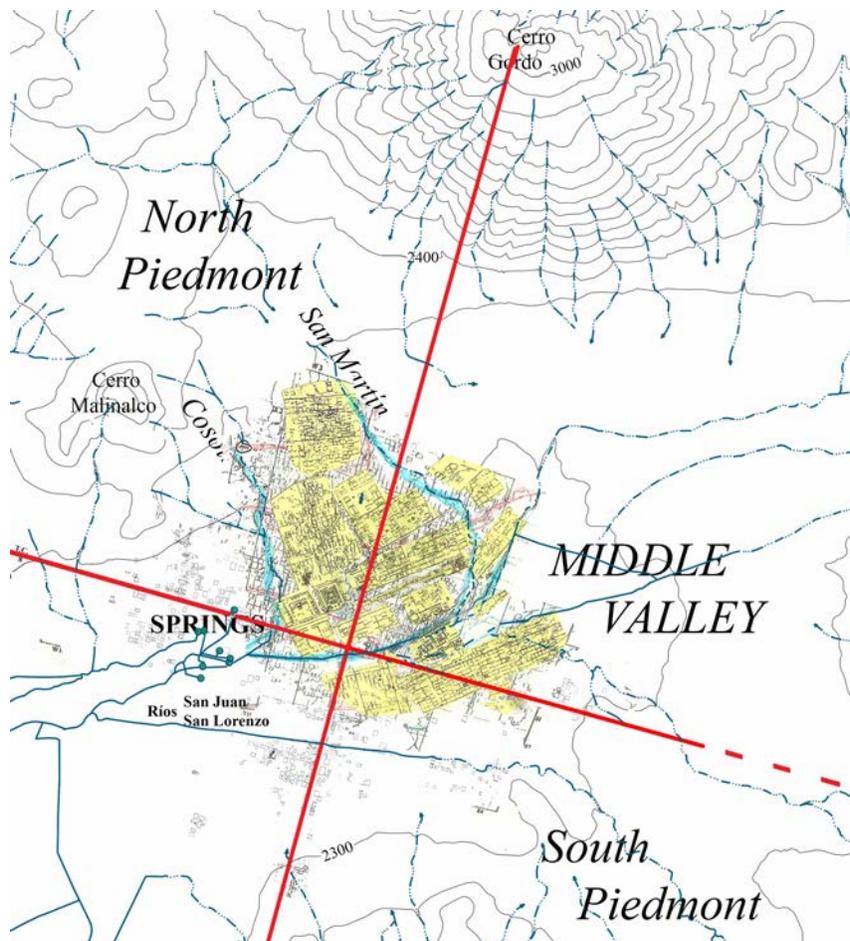


Figure 10. Teotihuacan as it might have developed as a “natural-contour city”, without changing its early pattern of contour settlement. It still lies mostly between the two barrancas but, unlike the Teo North city, the city plan does not substantially alter the natural drainage except to establish contour terraces. Teo North and West are not considered in the “natural city” -- red lines indicate their paths along the actual city’s Street of the Dead and East-West Avenue. (collage by S.T. Evans with annotated detail of Figure 1; yellow areas are photocopied from Millon et al. 1973).

Establishment of the City

Efforts such as terracing would have maximized the security of crops for the early colonists, but the growing community’s population at the turn of the millennium may have been well over 10,000. Teotihuacan became a sizable city during the same period that the southern Basin of Mexico and western Puebla experienced ash fall and eruptions from Popocatepetl and Ixtle volcanoes (see Plunket and Urufela 1998). Long before lava flows covered the Basin of Mexico’s first city, Cuicuilco, it was clear to people in the southern Basin that they

should try to find safety far away from such problems.

Teotihuacan seems to have been one such refuge, as suggested by rising population size and, more subtly, by household ritual paraphernalia.⁵

Teotihuacan’s rulers were able to provide sanctuary, work and food to this valuable labor force. The city’s rising population permitted planning on a monumental scale, starting with a ceremonial platform that was the first stage of the Pyramid of the Moon (Sugiyama and Cabrera 2007).

Teotihuacan's developmental phases reveal the linked trajectories of population growth and agricultural intensification. To secure larger harvests, Teotihuacanos exploited different water sources: they intensified the rainfall-dependent piedmont zones, channeling runoff, and developed drained fields in the lower valley to be used as nursery beds, crowded with early seedlings to plant out on the alluvial plain in time for the rains.

These strategies required dependable rains and effective irrigation techniques, so different water-related deities became standard fixtures in the city's artistic program. The city's imagery and orientation may reflect a changing pattern of water worship, with early emphasis on rain deities and a later, added concern with springs and felines (Evans and Nichols 2016). Note, newly important water-related deities do not replace established ones, but join an expanding group. The Storm God is worshipped throughout Teotihuacan's history, and jaguars and serpents are featured in murals that date from the early city, in lower levels of the Street of the Dead Compound, Teo IIA (Tlamimilolpa phase, Cabrera 1995f: 4.1: 46), or possibly even from Teo I-II (Tzacualli-Miccaotli phases, per Magaloni 1995: 200). The "Jaguars and

Teotihuacan Chronology: Cultural Periods and Ceramic Phases

With the first stage of the Pyramid of the Moon, the monumental ceremonial center was established, and we enter the chronology of the new city (**Figure 11**). This chronology is systematized through several correlated sequences that pertain to the city and its culture-ecological contexts, the Teotihuacan Valley and Mesoamerica. Mesoamerican and Teotihuacan cultural periods are characterized by trends in culture history and associated material cultural

serpents mural" (Cabrera 1995f: 4.1: 45-46) may be an early instance of an important and enduring theme in Teotihuacan art: felines and serpents and the relationship between the deities associated with them, which the Aztecs would call Tezcatlipoca and Quetzalcoatl.

The two worked together to reconstruct the universe before the Age of the Fifth Sun could be instigated at Teotihuacan (Ossio 2015: 213). This brought forth a liminal time-space zone, emerging from time that was before the present, Fifth Sun, *anecumene* ("not of this world" – or mythic) domain of time, and initiating the *ecumene* ("of this world") domain of the Mesoamerican space-time continuum (López Austin 2015: 30-31)

Honoring the rain gods with monuments and rituals had the practical effect of keeping the growing population occupied, reasonably satisfied with their standard of living, and loyal to the government. The grid provided an expanding set of arenas for processions attended by participants and onlookers and monitored, from the pyramids, by the city's rulers, who could consequently keep track of piety and loyalty, even at the household level.

remains, and phases capture the changing patterns in key diagnostics such as ceramic vessel type and decoration. Teotihuacan's phase sequence is generally accepted.

Mesoamerican and Teotihuacan cultural sequences provide "relative dating" in the sense that each expresses a progressive sequence of connected segments that occurred in a particular order, relative to each other, but may lack strong linkage to "absolute" dates, calculated in years before

present. Furthermore, if one of the phases is linked to a new absolute date, the others must maintain their relative order and must be fitted into a different time frame.

A recent crop of absolute dates has moved back in time important markers such as the arson that signaled the city's sharp decline. The date of the burning is critical to the rest of the sequence, and readers should note that older scholarly and popular publications use dates in the eighth, ninth, or even tenth century. The recent absolute dates suggest that if Teotihuacan, as a functioning city centered on the Street of the Dead, outlasted CE 600 it was not by much.

We do know that the relative and absolute chronologies stretch through at least five centuries of urbanization, from the first stage of the Moon Pyramid to the end of Teotihuacan's active life as a city, and that the pre-burning sequence of cultural events, associated with ceramic types, must be fitted into a shorter sequence than previously thought.

The chronological table (**Figure 11**⁶) presents a plausible correlation of cultural periods for Mesoamerica and for Teotihuacan, with ceramic phase names and some tentative absolute dates.

Short version, immediately below.

Chronology of urbanized Teotihuacan: relation of Mesoamerican cultural periods to TEOTIHUACAN CULTURAL PERIODS and *ceramic phases*:

Urbanizing:

- Early: Late Formative period's last century, ca. 100 – 1 BCE
PROTO-TEOTIHUACAN PERIOD; *Patlachique phase*;
- Terminal Formative period, early-mid, ca. CE 1 – ca. 170
TEO I, IA, AND II PERIODS; *Tzacualli and Miccaotli phases*;
- Early Middle: Terminal Formative period, late, ca. CE 170 - 250
TEO IIA PERIOD; *Early Tlamimilolpa phase*;

Urbanized:

- Middle: Early Classic period, early, CE 250 – 350
TEO IIA-III TRANSITION PERIOD; *Late Tlamimilolpa phase*;
- Mid-Late: Early Classic period, mid, CE 350 – 450
TEO III PERIOD; *Early- mid Xolalpan phase*;
- Late: Early Classic period, late, CE 450 - 600
TEO IIIA AND IV PERIODS; *Late Xolalpan and Metepec phases*;

De-urbanized, after the burning and demographic collapse:

- Late Classic and Epiclassic periods, CE 600 - 900
Oxtotitcpac and Coyotlatelco phases;
- Early Postclassic period, CE 900 - 1200
Mazapan phase;

This stretch encompasses four Teotihuacan culture periods and six ceramic phases.⁷

Figure 11. Table of Teotihuacan Chronology

| Mesoamerican culture periods | dates | | Teotihuacan cultural periods[1] | Teotihuacan phases[2] | Teotihuacan valley & city benchmarks |
|------------------------------|-----------------|----------|---|--------------------------------------|---|
| Early Postclassic | ---1100--- | | <u>Mazapan</u> | <u>Atlatongo / Tollan</u> | |
| | ---1050--- | | | | |
| | ---1000--- | | | ---1000--- | |
| | ---950--- | | | <u>Mazapan</u> | |
| | ---900--- | | | ---900--- | <u>maguery farming</u> ; |
| | ---850--- | | ---850--- | | |
| | ---800--- | | | <u>Coyotlatelco</u> | |
| Early EpiClassic | ---750--- | | <u>Oxtoticpac</u> | | <u>squatters</u> in the city; |
| | ---700--- | | | ---700--- | |
| and Late Classic | ---650--- | | proto- <u>Coyotlatelco</u> | Early EpiClassic / <u>Oxtoticpac</u> | <u>village focus</u> at SJT |
| | ---600--- | | ---600--- | ---600--- | |
| | | | Collapse | Collapse | <u>precipitous loss of population</u> |
| | ---550--- | | 550: BURNING | 550: BURNING | |
| | ---500--- | | TEO IV = | = METEPEC | <u>maintaining</u> but not expanding |
| | | Late | | | |
| Early Classic | ---450--- | | TEO IIIA = | = Late XOLALPAN | |
| | ---400--- | Mid-Late | TEO III = | = Early | <u>city</u> at its peak |
| | ---350--- | Middle | ---350--- | ---350--- | Teo influence abroad; |
| | ---300--- | | TEO IIA-III transition = | = Late | <u>apt. componds</u> ; |
| | ---250--- | Early | TEO IIA = | --TLAMIMILOLPA- = Early | <u>adosado</u> , mask, FSP; |
| | ---200--- | Middle | ---170--- | ---170--- | <u>city population</u> 80-90% max |
| | ---150--- | | TEO II = | = MICCAOTLI | |
| | ---100--- | Early | ---100--- | ---100--- | Sun Pyramid complete [9] |
| Terminal Formative | ---50--- | | TEO IA = | = Late TZACUALLI = Early | |
| | | | TEO I = | | |
| | <u>BCE / CE</u> | | <u>---BCE / CE--</u> Proto-Teo (<u>Patlachique</u>) | <u>---BCE / CE--</u> PATLACHIQUE | <u>---BCE / CE--</u> Moon <u>Pyr. established</u> ; |
| | ---50--- | | | | |
| Late Formative | ---100--- | | Proto-Teo (<u>Tezoyuca</u>) | TEZOYUCA | |
| | ---150--- | | | | |
| | ---200--- | | | | |
| | ---250--- | | | | |
| | ---300--- | | | | <u>villages</u> shift to |
| | ---350--- | | | CUANALAN | <u>valley</u> |
| Middle Formative | ---400--- | | | | <u>floor</u> |
| | ---450--- | | | | |
| | ---500--- | | | | |
| | ---550--- | | | ---550--- | |
| | ---600--- | | | | |
| | ---650--- | | | CHICONAUTLA | |
| | ---700--- | | | | |
| | ---750--- | | | ---750--- | |
| | ---800--- | | | | |
| | ---850--- | | | | |
| | ---900--- | | | ALTICA | |
| | ---950--- | | | (to ca. 1150 BCE) | |

Proto-Teotihuacan and Teo I: Pyramid of the Moon and Power of Teo North

Teotihuacan cultural periods Proto-Teotihuacan, Teo I and IA (usually correlated with late Patlachique and subsequent Tzacualli ceramic phases) mark initial efforts at monumental construction on the ceremonial center.⁸ The Teo I population already numbered tens of thousands of people -- migrants seeking security and locals perhaps newly privileged by the arrival of homeless outsiders who became an instant lower class. Supporting this demographic wealth with increased food production could be achieved by the continued intensification of their valley and exploitation of food-producing areas within transportation range of the city.⁹ Controlling a sizeable, ethnically diverse population would require an urban plan with venues for orderly gatherings designed to

Why This Orthogonal Orientation?

Food production is a basic component of the culture-ecological equation, but to the Teotihuacanos, another was securing fertility by successfully petitioning the great forces essential to their universe and to farm fields, the deities and sacred principles in charge of water and abundance. From the emic perspective of the culture-bearers, both praying and farming were essential for successful harvests.

Offerings to the gods in the Postclassic Central Highlands were debt repayments – the gods underwent torture and privation so that the cosmos could come alive, setting in motion the sun and moon and time, events that are supposed to have happened in Teotihuacan. The gods created humans and gave them that most fundamental food, maize. But for farmers to grow maize, the gods must every year offer

increase social solidarity, and with potential for monitoring the population.

Teotihuacan did not evolve, as most cities do, from its earlier patterns of settlement and land use. The mature city was not a series of haphazard responses to stress, a mass of situational and diverse additions along the contours. The natural-contour plan, shown above, is in strong contrast to the Teo North orientation initiated by the planners with the second stage of the Pyramid of the Moon. This set the course for the Street of the Dead as it extended south, and for all the parallel and perpendicular streets and alleys in the mature city, a plan to accommodate growth for centuries. What motivated the planners?¹⁰

the gift of water in season, and divine generosity should be encouraged by active human efforts, offering sacrifices and monuments and rituals such as processions.

Famines due to crop failures induced by irregular climate patterns in the Basin of Mexico occurred regularly in pre-Columbian times (e.g., in the mid-1400s, according to Sahagún 1979b [1569]: 8: 2), and Teotihuacan's relation to its challenging local climate was precarious. Given the valley's low rainfall, any delay in the onset of the summer rains was a crisis, especially with the growth of the city's population, which simultaneously created an increased need for food while transforming productive farm terraces into sprawling shantytowns. As the rainy season approached in late spring, the sunset moved north along the western horizon and was watched more anxiously than at any other time of the year.

The workers' shantytowns were later replaced by planned apartment compounds squarely oriented toward Teo North and its perpendicular, Teo West (ca. 16° N of W). Teotihuacanos could track the changing seasons along the tall, smooth exterior walls of compounds and monuments. Late spring sunsets illuminated increasing areas of south-facing walls until the due-Teo-West sunset flooded the city's grid in a semi-annual high tide of light. Teotihuacanos could bathe in this light, in direct and potent contact with the sacred forces controlling the rain, through prayers expressed in dances and processions taking place in the city's major causeways, canals, plazas and monuments. Particular parts of the city may have developed signature sensory assemblages – the combined quality of light, sound, fragrance, viewshed and other features of the ambiance. Particular places may have become meaningful as through sensitivity to a multiplicity of sensory stimuli, and the accumulated history of their uses.¹¹

Like many scholars, I believe that the orientations honored essential sacred

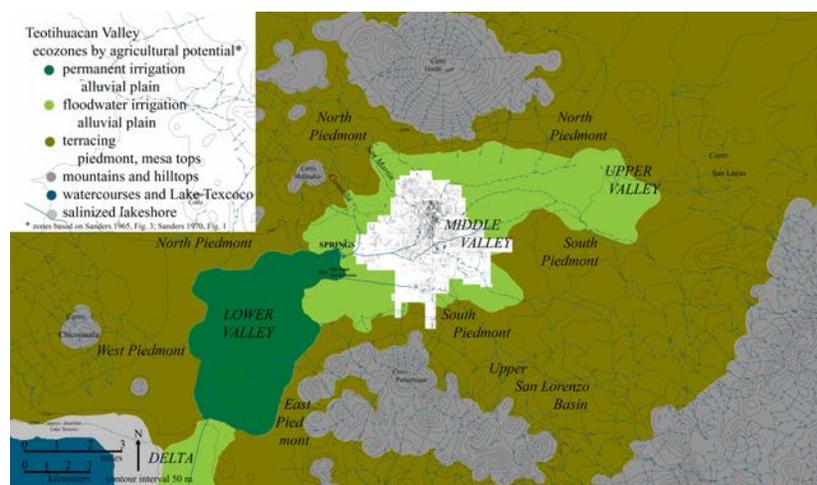


Figure 12. Teotihuacan as a “true-north city” oriented to the summit (real or ideal) of Cerro Gordo and at roughly the same elevation on the slope of the piedmont. The ecozone map accentuates the true-north city’s awkward positioning in the center of the middle valley. Although the actual city required a monumental civil engineering project in rerouting Río San Juan, the true-north city would entail even more. Furthermore, the true-north city’s grid would run along natural contours, reducing grid’s efficiency in diverting runoff.
(collage by S.T. Evans)

principles such as time and rainfall, while I further posit that the planners had two other motives for this particular orientation of the grid: taming the potentially destructive capability of rainfall as runoff; and creating arenas for processions along these vectors, as an important means of maintaining social solidarity and expressing veneration for time and water. Furthermore, the city’s orientations and situation provide other practical advantages, in contrast to the “natural-contour city” or, perhaps, the “true-north” city. If we assume that Cerro Gordo was an important anchor in the city plan (Tobriner 1972), why was this alignment, Teo North, chosen over a huge range of potential axes radiating out from its summit, including true north?

Anchoring the city’s layout on Cerro Gordo with a true north orientation could have been achieved by establishing the city just a few kilometers to the east (**Figure 12**). But this would situate the city too far up-valley to use effectively its limited runoff. Also, the true west perpendicular could not deliver the practical and ideological benefits bestowed by Teo West, discussed below.

Teotihuacan's monumental architecture counted out the days with the dimensions of great rectangular structural footprints (Sugiyama 2005: 41), but the orthogonal grid served another, more practical purpose. The city's planners made water as much a part of the grid as was

Diagonal to the Slope, An Urban Advantage

Thus the Teotihuacan orientation and grid had a practical effect. The grid is pitched at a diagonal of 35° to 45° to the direction of the downward trend of the piedmont slope, an orientation that tempers the erosive power of runoff while enhancing civic hygiene by channeling rainwater and wastewater through the city.

At just over 3%, the city's slope is so gentle that most modern visitors to the city assume that the site is on a level plain.

Pyramid of the Moon, A Water Mountain

The temple atop the Moon Pyramid faced south, but the monument's greatest power may lie in its function as a focus for worshippers on the Street of the Dead, facing Teo north to see the temple pyramid

Figure 13. Looking north along the Street of the Dead at its intersection with East-West Avenue, showing the Sun Pyramid at right and the Moon Pyramid and Cerro Gordo, just left of center. The line of trees marks the course of the Río San Juan; just beyond it is the Street of the Dead Compound. (photo by S.T. Evans)



water worship; the expanding orthogonal framework of the city formed a skeleton knit together by a water-bearing vascular system. Drainage was built into the apartment compounds, the streets, canals, canalized waterways and irrigation systems (Angulo 1987b).

However, even a slight gradient affects the pattern of runoff and its almost inevitable Teotihuacan Valley consequence, erosion, and the barrancas that frame the city testify to its down-cutting power. This pragmatic hydrological consequence of Teotihuacan's orientation may have been accidental and quite secondary to more geo- and cosmo-mantic concerns, but our growing understanding of the city's planners suggests that they included capable civil engineers.

point directly at Cerro Gordo's summit in its idealized form, the imaginary apex truncated by the mountain's volcanic crater (**Figure 13**).

In the vast cosmo-hydrological system that connected the water-storing mountains and the sea through rainfall and underground channels (**Figure 14**), the

Teotihuacanos constructed their first effigy mountain, the Moon Pyramid, in part to honor Cerro Gordo as a great water mountain.



Figure 14. The water mountain from Teotihuacan's Tepantitla apartment compound illustrates the Central Highlands tradition that the known world's water circulates through the landscape, filling mountains and then being released as rain or as water from the springs. In the 16th century, Sahagún's informants said that the mountains were "magic places, ... like ollas or like houses; ... filled with the water" (Sahagún 1963 [1569]: 11: 247).

(Image:

upload.wikimedia.org/wikipedia/commons/a/a5/Tepantitla_Mountain_Stream_mural_Teotihuacan_%28Luis_Tello%29.jpg (Teseum) accessed June 9, 2016)

These water mountains were controlled by the Storm God, whose depictions are among the earliest deity representations at the city, in the Terminal Formative (Proto-Teotihuacan and Teo I) period. We recognize the Storm God as ancestral to the Aztec Tlaloc, and as descended from an already ancient line of representations of sacred principles of water and fertility. Water worship as an early and major focus of Teotihuacan's rituals is demonstrated by ceramic Storm God vessels in Teo I, IA and II (Tzacualli and Miccaotli ceramic phases). The Storm God's diagnostic goggle eyes may represent and in turn be referenced in the pierced disk *chalchihuitl* symbol, a sign of preciousness and sanctity that became indelibly associated with the day count and also with

droplets of blood and water, and also became a signature of Teotihuacan on monuments in distant cities. Storm God worship in Teo I-II would be consistent with dependence on rainfall as the major source of water for crops grown on the piedmont slopes and the rainfall-dependent middle and lower valley alluvial plains.

When runoff coursed through streams and canals and into ponds, reservoirs, and lakes, it was part of the domain of a water goddess known to the Aztecs as Chalchihuitlicue (She of the Jade Skirt; **Figure 15**) and represented in Teotihuacan art by at least one great monolithic statue (**Figure 16**). The water goddess statue was found in the Moon Pyramid plaza, but cannot be placed in Teotihuacan's chronology.



Figure 15. Chalchihuitlicue (as shown in the Codex Borgia, 65), “a powerful being whose forces could destroy a society, as indicated by the people caught in the flood that she has unleashed” (Umberger 2013: 3). (copyright-free image from https://upload.wikimedia.org/wikipedia/commons/2/2e/Chalchiuhtlicue_copy.jpg accessed June 9, 2016)



Figure 16. Statue commonly identified as a water goddess, found near the Pyramid of the Moon, now in the Museo Nacional de Antropología, Mexico City (over 3 m high and weighing 22 metric tons). (photo by Wolfgang Sauber adapted from Wikipedia commons, https://commons.wikimedia.org/wiki/File:Teotihuac%C3%A1n_-_Chalchiuhtlicue.jpg#filelinks accessed June 9, 2016)

Some of Teotihuacan's earliest known murals may date to this period, and most feature abstract designs (see Appendix, Teotihuacan Murals, which is found at the end of this paper). Simple geometric designs found at the Temple of Mythological Animals (northern Street of the Dead) seem consistent with the style of Teo I (Tzacualli phase; Lombardo 1995: 18-19), and copies of murals uncovered at the Temple of Agriculture, along the northern Street of the Dead included some that may be of similar age (Lombardo 1995: 18-19; Magaloni 1995: 205). Some of the murals found at various levels of the Street of the Dead Compound (Cabrera 1995d: 3.1: 27-28, 3.2: 28-31; Cabrera 1995f: 4.2: 46; Miller 1973: 89-90), depicting abstractions such as green pierced disks and interlaced volutes, may date to Teo I-II (Tzacualli-Miccaotli per Lombardo 1995: 18-19 and Magaloni 1995: 200).

Teo II and IIA: Teotihuacan Growth, in Size and Monumentality

From the combined effects of the influx of migrants and intrinsic growth of established populations that began in Teo I, the maturing city developed population densities and an overall size rivaled by few other indigenous settlements in the New World. With the city's major orientation in place, all subsequent construction would

strengthen Teotihuacan's relationship to water, time, and fertility. In Teo II and IIA (Miccaotli and Early Tlamimilolpa phases, roughly CE 100 to 250), monumental construction continued and the city grid extended along the Street of the Dead to the Río San Juan.

Pyramid of the Sun and the Power of Teo West

The construction dates of later levels of the Moon Pyramid seem to overlap with construction of the Sun Pyramid, over the course of about 150 years of Teo IIA (ca. CE 170 to 310, per N. Sugiyama et al. 2013; also, Cowgill 2015: 83), with state monumentality at its peak in the early 200s (Sugiyama et al. 2016). From a plaza at the foot of the Moon Pyramid to the front of the Sun Pyramid, the Street of the Dead ran unobstructed for over half a kilometer, and together with Cerro Gordo, the pyramids and avenue created a theater for rituals glorifying water.

The city's mural art developed on the walls of new structures that rose along the Street of the Dead and elsewhere (Miller 1973: 19-20), presumably depicting ceremonial traditions already in place. Enduring themes appear in this early-to-

middle period: felines, serpents, freshwater symbols, and irrigation canals (see Mythological Animals, in the Appendix).

The presence of a water goddess statue near the Moon Pyramid led Saburo Sugiyama to conjecture that the Moon Pyramid and Sun Pyramid might represent an ideological dichotomy similar to that represented by the twin temples atop the Templo Mayor pyramid in Aztec Tenochtitlan: northern water deity, southern sun deity (2013: 6). Both Aztec temples faced west, but at Teotihuacan, the Pyramid of the Sun was the first Teo West-facing major monument. The city's rulers could more dramatically perform rituals pertaining to the rains as they occurred in the course of the year, while continuing to venerate the rains stored in the water mountains.

Pointing Toward Toxcatl: Lessons from the Aztec Solar Year (Xiuhpohualli)

“The fundamental concern of Aztec ritual was with rain and fertility”
(Broda 1987: 71)

The annual ritual cycle in Teotihuacan can be elucidated by an examination of the Aztec solar year, assuming that cultures of the Central Highlands of Mexico shared and honored certain beliefs and sacred principles essential to their shared agrarian year. There are of course problems with using the Aztec calendar to interpret that of Teotihuacan: the Aztec calendar as reported by the chroniclers has inconsistencies, and modern scholars do not agree over certain matters of interpretation. Nor do all modern scholars see a strong link between Aztec culture and that of Teotihuacan – the matter of a shared Nahuatl language is disputed, and shared

language is a major factor in overlap of customs. Despite these complications, I agree with Nicholson's perspective: Aztec iconography is fundamentally important for Mesoamerican studies, it reflects earlier systems and constitutes a synthesis of them (Nicholson 1973: 72). Furthermore, the Teotihuacan Valley lies within the Aztec heartland, the Basin of Mexico. Accepting this point of view, I here present basic information about the Aztec calendar to support the thesis that Teotihuacan's grid, marking a critical point in the agrarian year, served as an arena for processions designed to intensify the power of its rituals.

The Importance of Leap Year:

In one of their most important ritual calendars, the Aztecs divided the 365 full days of the solar year into eighteen “months” – twenty-day periods known by the Spanish word *veintenas* (“twenties”), plus a period of five dead days, *nemontemi*, at the end. How did they deal with the rest of the solar (tropical) 365¼-day year? Without the intercalation of a day every fourth year, the sequential months of the Aztec *veintena* calendar would become disassociated from the solar year’s cycles of time marked by climate and agrarian practices; the calendar would represent a vague year. In only a few decades, the seed-planting or harvest ceremonies of the Aztec *veintenas* calendar, celebrating the changing natural world, would lose their meaning.

But, in fact, the practices associated with the *veintenas* show “the intimate connection that existed between the agrarian cycle – or, if you prefer, of vegetal germination and growth – and that of the successive religious celebrations of the ancient Mexican calendar” (Castillo 1971: 77).¹² An extended description of agricultural and ritual practices associated with the *veintenas* by Milbrath “demonstrates a clear link with seasonal cycles” (2013: 24; also Milbrath 2007: 172¹³).

Nonetheless, scholars do not agree that the Aztecs – or any other Mesoamerican culture –intercalated a day every four years in order to maintain congruence with the natural annual cycle.¹⁴ In fact, a leading specialist asserted that none of the native calendars “ever had intercalary leap-year days, at least before the Conquest” (Edmonson 1988: 9). This blanket statement notwithstanding, there are good reasons for believing that the Aztecs and

many other cultures of Mesoamerica incorporated the extra day into their calendars, and the reverence offered to groups of four (and to time in general) may have its roots in the gift from the gods of this extra day, every four years. The extra day completes the group of four as the center completes the quincunx.

Aztec use of leap year corrections is posited by both Durán and Sahagún.¹⁵ “These people observed the leap year much as we do” (Durán 1971 [1579]: 469). In a rebuttal to assertions by Motolinía, Sahagún wrote: “in the count which may be called a true calendar they count three-hundred and sixty-five days, and once every four years they counted three hundred and sixty-six days with a feast which for this reason they observed every four years” (Sahagún 1979a [1569]: 4: 141). He conjectured that this took place at the end of the year, in the *veintena* *Izcalli*, or in the *nemontemi*, in a one-day great and riotous festival involving the entire populace and filled with dancing, processions, and general drunkenness. “And every four years there was ‘The Taking Out of the Children’ and ‘The Drunkenness of the Children’ and the rulers danced the dance [Nahuatl: *mitoa*] of the lords. ... And the celebration was done in one day, and at sundown a procession [Nahuatl: *tlayavalolo*] was held” (Sahagún 1997 [ca. 1559]: 67).¹⁶ Motecuzóma II himself attended, “a special personal appearance ... extravagantly costumed for the Princely Dance” (Hajovsky 2015: 87).

Furthermore, a “[p]ardon for ... sins was granted every four years on the jubilee” (Durán 1971 [1574-1576]: 97). At their first every-fourth-year *Izcalli* festival held after their birth, Aztec children had their ears pierced, were given godparents, and

probably established a social identity as members of the same age set and defined themselves chronologically, throughout their lives, by that particular bissextile ceremony. Other four-year counts involved individual life passages: at age four children were weaned, and began training in basic skills, and the end of life began a four year passage into oblivion. Regardless of the afterlife an Aztec had achieved through the manner of death, the soul would disappear after four years and ritual observances of the person's passing would cease.¹⁷

There are other more circumstantial reasons for believing that the Aztecs, and probably other Mesoamericans, used the solar year with its regular bissextile correction. One is the prevalence, throughout Mesoamerica, of the ancient use of horizon markers that provide meaningful benchmarks for important points in the sun's yearly track, particularly equinoxes and solstices. So common are these sightlines that it is difficult to imagine that the site planners and ritual specialists did not use them to readjust calendars, particularly where regular sharp seasonal changes signaled successive phases of the agrarian cycle. The culture's timekeepers understood the fundamental importance of maintaining this knowledge when they incorporated it into the plans of site layout – such as Teotihuacan's.

Another important yearly marker, the zenith passage, could be noted by those observing their own shadows (Tichy 1981: 231, 233). Colonial officials of the late 16th century were cautioned, in the *Relaciones Geográficas* (see, for example, Castañeda 1979 [1580]: 211), to watch for any untoward native attention to the passing of the sun directly overhead (see also Aveni

2001: 40-42). The authorities were concerned about the continuing practice of pagan rites, but their acknowledgment of native attention to these events of the solar year suggests that in prehispanic Central Mexico, the empirical perception of the natural calendar took precedence over the 365-day *veintena-plus-nemontemi* vague year, and that adjusting the calendar to maintain consistency with the agrarian year was routine.

Aztec traditions provide circumstantial evidence for a bissextile intercalation in the iconographic and ritual importance of the count of four. Each year took, as its year name, one of four day-names from the twenty day-names of the *tonalpohualli* divinatory year (see Boone 2007: 15-18). These same four names recurred for thirteen cycles of four years to comprise the Aztec "century" of 52 years. It would seem that the calendar itself honored the importance of marking each four years as a set, receiving the added dimension of an extra day.

Four also had spatial connotations: the Aztec capital, Tenochtitlan, was divided into quarters, and had a four-part plan centered on a spiritual axis that connected the plane of the earth to the levels of the cosmos. Describing the first page of the *Codex Fejerváry Mayer* (**Figure 17**), Aveni noted "If there is a central theme about order in the universe ..., it is the idea that all things are arranged in categories of four" (Aveni 1989: 265; see also Aveni 2012: 75-82). Perhaps this fundamental numeric theme was initiated in the natural cycle of marking out groups of four years by the remarkable occurrence of the extra day borne within them.

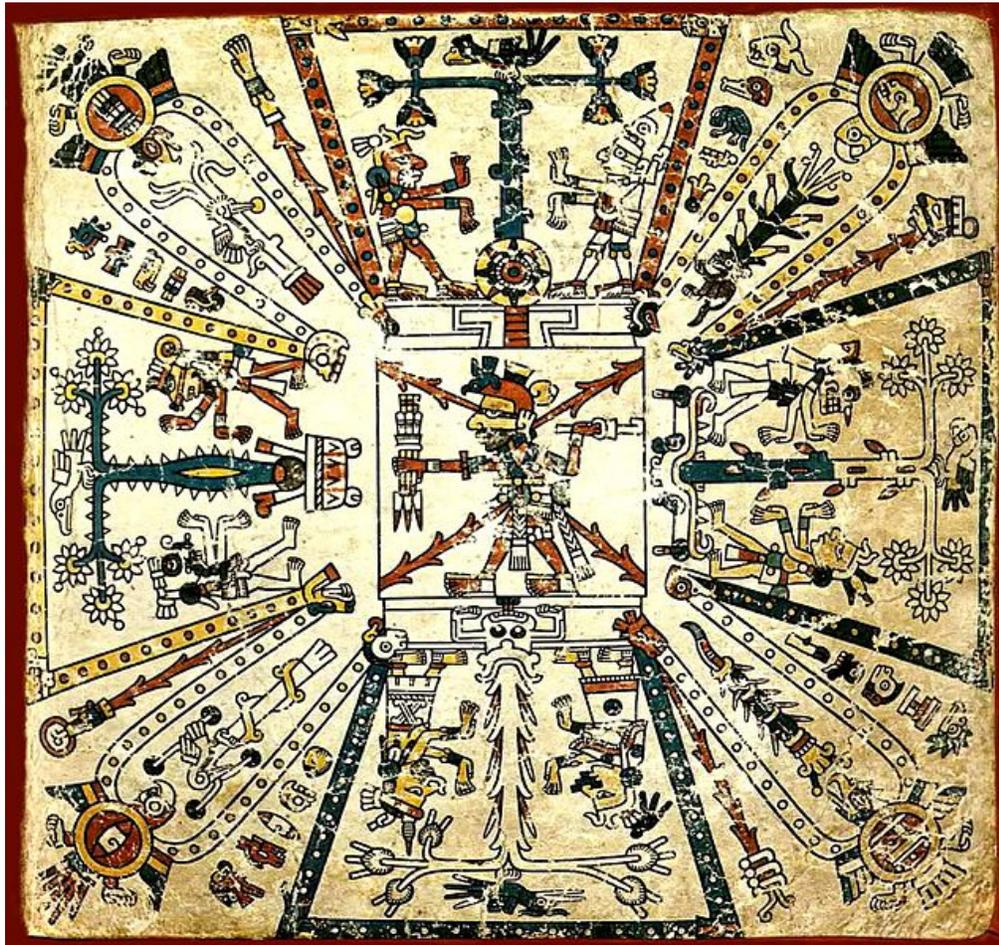


Figure 17. Codex Fejerváry Mayer, page 1, emphasizes counts of four. (Wikimedia Commons file, accessed August 28, 2015)

The Aztec Year of Veintenas, and the Agrarian Cycle

If rituals pertaining to rainfall and the onset of the rainy season were essential to Teotihuacan’s orientation, one must also assume that the Teotihuacanos, like the Aztecs, understood the importance of adding an extra day to the calendar every four years. The ceremonies they performed no doubt constitute some of the roots of Aztec rituals, and therefore the Aztec calendar of veintenas offers insight into Teotihuacan practices.

Sources vary as to when, relative to our modern calendar, the Aztec year began, and this is complicated by the transition

from the Julian to the Gregorian calendar, which Spain recognized in 1582, and for most of the 16th century required a correction adding ten days. The chroniclers agree that the Aztec began their new year in late winter, but neither they nor modern scholars have achieved consensus.¹⁸

Commonly used names for the eighteen veintenas of the solar year, and their commonly ascribed attributes, are listed in **Figure 18**, including some of the deities honored and associated offerings and activities.

Figure 18. Table of Aztec Months (Veintenas) of the Solar Year, with a concordance with possible modern dates and main ritual features.

| Veintena | Timing, Gregorian* | Debt-payment to Gods** | Offerings and Activities |
|--|---|---|--|
| I <i>Atl cahualo</i> , aka <i>Quauitl eua</i> , ("raising of poles") | Feb 12 – March 3, or Feb 23 – March 14 | Tlaloc, Chalchihuitlicue, also Quetzalcoatl | child sacrifices for rain*** |
| II <i>Tlacaxipehualiztli</i> ("flaying of men") | March 4 - 23, or March 15 – April 3 (<i>equinox = ca. Mar. 20</i>) | Xipe Totec | child sacrifices for rain; tribute payments due |
| III <i>Toçoztontli</i> ("little vigil") | March 24 – April 12, or April 4 – 23 | Tlaloc; also Coatlicue | child sacrifices for rain; first flowers |
| IV <i>Hue Toçoztli</i> ("great vigil") | April 13 – May 2, or April 24 – May 13 | Cinteotl (maize), Chicomocoatl (maize) | child sacrifices for rain; young maize plants |
| V <i>Tóxcatl</i> ("dryness" or "drought") | May 3 – 22, or May 14 – June 2 | Tlaloc, Chalchihuitlicue, Tezcatlipoca, Huitzilopochtli | dances and processions of lords and of commoners |
| VI <i>Etzalcualiztli</i> (eating etzalli [a dish of corn and beans])**** | May 23 – June 11, or June 3 – 22 (<i>solstice = ca. June 20</i>) | Tlaloc (rain) gods | sacrifices to rain gods; food & púlque offerings, incl. to farm tools; tribute payments due |
| VII <i>Tecuilhuitontli</i> ("little feast of the lords") | June 12 – July 1, or June 23 – July 12 | Uixtociuatl, goddess of salt | exchange of flowers |
| VIII <i>Hue Tecuilhuitl</i> ("great feast of the lords") | July 2 – 21, or July 13 – August 1 | Xilonen ("goddess of the tender maize") | first green maize tortillas, amaranth greens, marigolds |
| IX <i>Tlaxochimaco - Miccailhuitontli</i> ("little feast of the dead") | July 22 – August 10, or August 2 - 21 | Huitzilopochtli (war); Xochipilli (flower lord) | flowers: in bloom: dahlias, ranunculus, many others; fear of crop loss to early frost |
| X <i>Xocotl Huetzi-huey- Miccailhuitontli</i> ("great feast of the dead") | August 11 – 30, or August 22 – Sept. 10 | Xiuhtecutli (fire); Mictlan- tecuhtli and Mictlancihuatl (rulers of underworld) | climbing of poles (sacred trees); <i>Xocotl Huetzi</i> means "fall of fruit" |
| XI <i>Ochpaniztli</i> ("day of sweeping") | August 31 – Sept. 19 September 11 – 30 (<i>equinox = ca. Sep. 22</i>) | Teteo innan (mother of gods), Toçi ("our grandmother") | general cleaning, rituals by women physicians; tribute payments due |
| XII <i>Teotl Eco</i> ("arrival of the gods") | Sept. 20 – Oct. 9, or October 1 - 20 | all the gods | weapon-making |
| XIII <i>Tepeilhuitl</i> | October 10 – 29, or October 21 – Nov. 9 | mountains | amaranth seed figures |
| XIV <i>Quecholli</i> ("flying spear") | Oct. 30 – Nov. 18, or November 10 - 29 | Mixcoatl | weapon-making |
| XV <i>Panquetzaliztli</i> ("raising of banners") | Nov. 19 – Dec. 8, or Nov. 30 – Dec. 19 | Huitzilopochtli, Tezcatlipoca | tribute payments due |
| XVI <i>Atemoztli</i> ("coming down of waters") | December 9 – 28, or Dec. 20 – Jan. 8 (<i>solstice = Dec. 21</i>) | rain gods | mountain ceremonies |
| XVII <i>Tititl</i> ("to stretch") | Dec. 29 – Jan. 17, or January 9 - 28 | llamatecutli / Tonan ("our mother"); Camaxtli | dances and games involving men and women |
| XVIII <i>Izcalli</i> ("growth") | January 18 – Feb. 6, or January 29 – Feb. 17 | Tlaloc; Xiuhtecutli (fire) | end of year ceremonies, may include bissextile calendar correction |
| Nemontemi ("useless") | February 7 – 11, or February 18 - 22 | | very little activity as everyone waited out the useless days |

* showing two correlations now in use by scholars; the first is based on Sahagún, Book 2, the second, on Tena 1987.

** From Sahagún, Book 2, and Durán *The Ancient Calendar* 1971 [1579]

*** Child sacrifices: I Atlcahualo ("buying them from their mothers") "until the rains began" (Sahagún Book 2: 8).

The relation of these ritual offerings to the yearly cycle of rains is made clear by a histogram of cumulative rainfall values by veintena (**Figure 19**). If rainfall knew no season, the cumulative histogram would follow a straight gradient. But in fact the six veintenas from the summer solstice (VI) through the autumnal equinox (XI) – about a third of the year – account for nearly two-

thirds of the rainfall. Shortly after the autumnal equinox, rainfall declines sharply, reduced to an average of a fraction of an inch per veintena, until after the vernal equinox. In worst-case scenarios, the minimum recorded values at Teotihuacan, there is no rain between October and May, a period of more than ten veintenas (plus the nemontemi) – more than half the year.

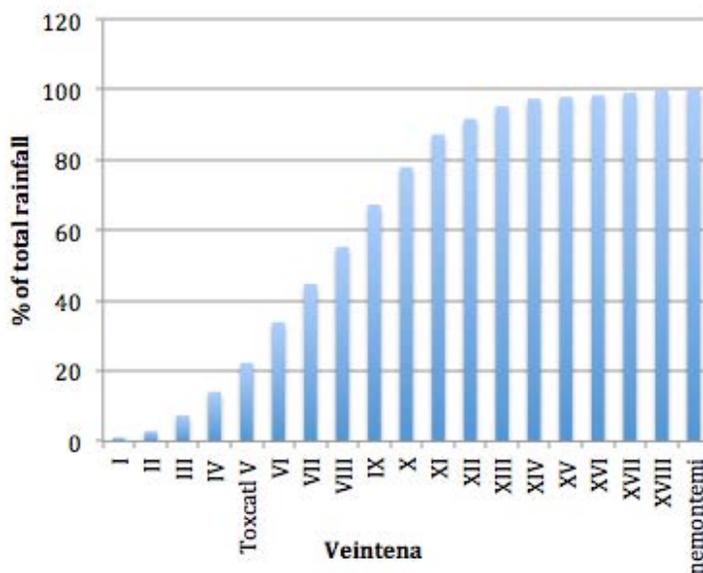


Figure 19 Teotihuacan Valley rainfall histogram of veintenas by cumulative percentage was estimated from mid-20th century values collected at the meteorological station at the archaeological site of Teotihuacan (based on Sanders 1965: 23).

The Importance of Toxcatl:

The onset of the rains, about 50 days before the summer solstice, was the critical hinge of the agrarian year. Aztec rituals pertaining to the timely end of the dry season took place in veintena V, Toxcatl, usually translated as “dryness” or “drought.”¹⁹ During Toxcatl, Aztec-era Teotihuacan Valley farmers took early-crop seedlings grown in the permanently irrigated lower valley, and planted them in the rainfall-dependent floodwater fields in the middle valley; they ritually offered some

maize seedlings as a sign of good faith that the rains would come to water them.²⁰ No wonder that Toxcatl was a period of watchful attendance to important rituals petitioning for the end of the dry season, and the next veintena, Etzalcualli, was celebrated (if all went well) with the delicious extravagance of a dish that included beans *and* maize, as indicated by the Nahuatl name, “‘eating of etzalcualli’ (a maize-bean porridge)” (Milbrath 2007: 188; see also Broda, this volume).²¹

Of all the veintena names, only Toxcatl (*tohshcaht*) has achieved a place in world history, because of Pedro de Alvarado's "Toxcatl massacre" in Tenochtitlan in May of 1520 (**Figure 201**), opening the hostilities leading to Spain's conquest of the Aztec empire. Since the arrival of the Spaniards in Tenochtitlan the previous November, an uneasy peace had

prevailed, with Motecuzóma II under house arrest in his Old Palace, nominally presiding over a hybrid Aztec-Spanish court. Cortés had given permission to the Aztec lords to celebrate "the most important of all the feasts. It was like Easter, and fell near Easter Sunday" (Sahagún 1981 [1569]: 2: 9).



Figure 202. The Toxcatl massacre, May 1520, took place in the Templo Mayor precinct of Tenochtitlan. (illustration, Durán 1994 [1581], Chapter 75; accessed June 10, 2016, as http://www.wikiwand.com/es/Matanza_de_T%C3%B3xcatl)

Toxcatl's ceremonies were critical to the agrarian year, and honored the water deities Tlaloc and Chalchihuitlicue. Celebrants played the rattle stick (*chicahuastli*), thought to encourage the rain through its sound (Broda 1971: 97) and adding a distinctive audial dimension to

processions at this time of year. The rituals also honored their tribal deity Huitzilopochtli, and the great god Tezcatlipoca, supreme diviner and random trickster, who could visit humankind with disaster or grace regardless of the supplicant's virtue or vice.

Toxcatl involved dances and processions by priests, young warriors, maidens, and, of course, by the lords. One could imagine the scene as described by Sahagun’s informants: “the women ... went along dancing (Nahuatl: *qujtlayavalochtitivia, quiyavaloaya*) ... they went in procession (Nahuatl: *qujtlayavalochtitivia, quiyavaloaya*)” “And at night all the priests everywhere and the young constables and their lords [danced] (Nahuatl: *mitoaya*) what was called the ‘Toxcatl Leap.’ The whole night they danced ... It was called ‘Winding In and Out,’ and the women danced in their

popcorn necklaces, their arms around each other.” (Sahagún 1997 [ca. 1559]: 58, 59).

In 1520, these rituals were violently interrupted, left incomplete, lacking essential prayers and offerings to the sacred powers thought to control the regular expression of the agrarian year’s fertile seasons. The slaughtered lords were ritual specialists with a purportedly closer relationship to the gods than the commoners had, another aspect of cultural trauma. More obvious to the modern observer, the massacre represented a tragic loss of Mexica military and government leadership just at the onset of critical hostilities with the Spaniards.

Aztec Veintenas, Processions, and Dances:

After the 1520 Toxcatl massacre, Tenochtitlan’s ritual life was never the same. In the past, the next veintena, Etzacualli, brought “a procession (Nahuatl: *tlayavaloloya*). ... They tied birds to poles; when the youths carried them in procession (Nahuatl: *tlayaloloya*) they went dancing (Nahuatl: *mitotitivia*) along with them. ... they had [the impersonator of] Tlaloc dance (Nahuatl: *quitotiaya*) all night. when he had died, once again there was a procession (Nahuatl: *moyavaloaya*) around the temple.” (Sahagún 1997 [ca. 1559]: 59).

This and other veintena descriptions from Sahagún’s *Primeros Memoriales* (dated to 1558 to 1560; Garibay 1948) stress processions and dances, often in the same context. Many Aztec dances were line dances²² and definitions of the Náhuatl terms and root-words defined as pertaining to dances and processions show the close relationships between the two (see Molina 1977 [1571]: I: 98v; II: 120v; Simeon 1984 [1885]: 80, 586; Karttunen 1983: 163, 304, 334; also Broda, this volume).²³ The tradition of processions carried on by the Aztecs had deep roots in Mesoamerica, including in Teotihuacan.

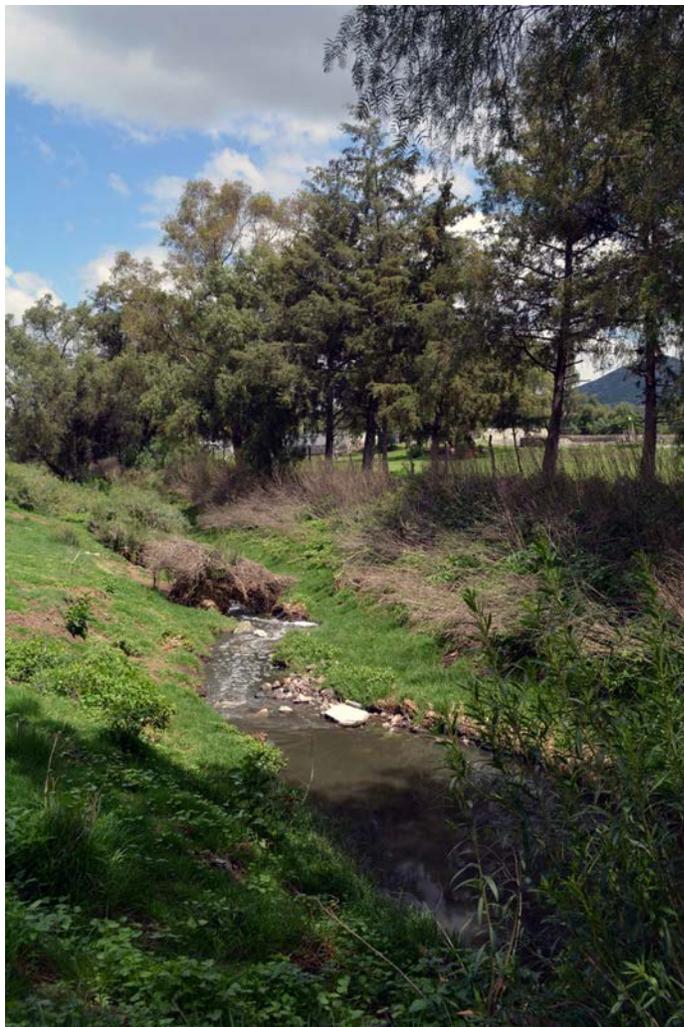
Teo IIA–III transition and Teo III: Río San Juan and the Southern Complex

Such dances and processions would be well accommodated by Teotihuacan’s layout by the time of the city’s early maturity (Teo IIA–III and III; Early Tlamimilolpa through Early Xolalpan ceramic phases). The city’s last projects involving monumental architecture were

completed at the southern end of the Street of the Dead: the Ciudadela and Temple Pyramid of the Feathered Serpent; and the Great Compound. The Río San Juan’s natural course cut across this area diagonally (see Figure 10), so that even prior to major construction, the builders had to reroute the

river and its tributary streams, and build a reservoir upstream from the construction (just east of the Ciudadela).

We should note the ingenuity of Teotihuacan's civil engineers in carrying out such a project, and also keep in mind that they were acting within constraints set by the drainage from the city's northeastern sector and adjacent countryside, and the drainage of Río San Lorenzo, about a mile south of the Río San Juan. Thus the location of the southern complex depended in part on where the river could be routed toward Teo West, a problem requiring close knowledge of slope and drainage, including the



accumulated drainage of many up-valley streams that would naturally converge at the Street of the Dead over a mile south of the Moon Pyramid. All this water was constrained to Teo West, slightly north of its natural inclination, for about 1,400 meters.

The idea that the Teotihuacan's planners would need to engineer a project several kilometers long and involving many thousands of cubic meters of earth in order to divert the Río San Juan seems contrary to the present reality of its narrow stream (**Figure 21**). However, today's water table is much lower than in antiquity (Sanders 1965).

A higher water table would have promoted the landscape's tendency to flood, creating a larger floodplain if unusually heavy rains fell and required diversions and reservoirs. Despite the best efforts of the planners to divert water, the floor of the Ciudadela may have flooded occasionally, become a sheet of water, watery underworld made real (Coggins 1986; 1996: 25; Gómez 2013: 11-13; Sugiyama 2005: 47, 52).

The Río San Juan became an orthogonal watercourse at least 5 km long that merged with city drainage and then with outflow from the springs to feed the irrigation systems of the lower valley.

Figure 21. As it runs through the modern archaeological site of Teotihuacan, today's Río San Juan is a vestige of its former self, here shown with a possible segment of West Avenue on the other side of the tree line. (photo by David Carballo, June 2, 2014, near La Ventilla)

While the deity most often associated with the southern complexes is the Feathered Serpent, it seems likely that the Water Goddess cult would have had much to celebrate in the creation of these

The Ciudadela Complex

The Ciudadela complex was bounded by a great square perimeter platform that enclosed a plaza with constructions mostly on its east side, where the central focus is the Pyramid of the Feathered Serpent (**Figure 22a** and **Figure 22b**), completed some time in the fourth century CE (S. Sugiyama 2013: 7, citing Gómez and Gazzola 2004). Its façade features swimming serpents, their bodies

precisely oriented waterways and pools. They no doubt shared with the Aztecs the belief that the Water Goddess “*was the water*” (Bassett 2015: 196).

forming long cartouches enclosing and framed by emblems of aquatic life (and war and sacrifice), an iconographic program suggesting that this was another water mountain. The Feathered Serpent deity had many areas of patronage, among them rainfall, as well as associations with creativity, artisanal mastery, warfare, sacrifice, and mercantile activity.



Figure 22a. Pyramid of the Feathered Serpent and its *adosado*, from the northwest. (Teotihuacan Valley Project photo, 1960 [#470])



Figure 22b. Detail, façade of the Pyramid of the Feathered Serpent, from the *adosado*. (Teotihuacan Valley Project photo, 1960 [#475])



There were probably seven levels to the original façade.²⁴ An architectural program of seven levels of serpents suggests a reference to Seven Serpent (Chicomecoatl), who, as an Aztec period fertility and maize deity, was honored in rituals celebrating the earliest maize plants in early spring and the onset of the harvest in late summer (**Figure 23**).

Her temple in Tenochtitlan-Tlatelolco was called Cinteopan (rough translation: maize-god place).²⁵ Chicomecoatl was revered as having “made all our food” – all the varieties of maize, beans, amaranth, and chia (Sahagún 1981 [1569]: 2: 65), and perhaps the seven-level serpent pyramid embodied this sacred principle of rainfall-dependent abundance, along with its myriad other associations.

Figure 23. Chicomecoatl (“Seven Serpent”), “they said she was the maker and giver of all those things which are the necessities of life, that the people may live” (Sahagun Book 2: 7). Here, the figure is a priest dressed in the skin of a sacrificed impersonator of Chicomecoatl, as illustrated in the *Codex Borbonicus*. (detail, adapted from Mixelore website, http://www.mixelore.co.uk/images-6/676_15_2.jpg)

Teo West as a Gnomon

The Feathered Serpent Pyramid, like the Pyramid of the Sun, faces Teo West, and scholars have long noted the importance of the east-west axis and its intersections such as the plaza in front of the west-facing Pyramid of the Sun, and the East-West Avenue as it crosses the Street of the Dead between the Great Compound and the Ciudadela.²⁶ In fact, Teo West has its own set of important meanings, and these may

have determined the best orientation for Teo North.

Teo West’s horizon is a line of low hills along which sunsets move north and then south in an annual circuit. At two times of year, the sunsets shine directly into the city along its grid, and these dates mark two events critical to the city: the beginning of the yearly rainy season at the end of April (Tichy 1981), and the beginning of time

around August 12th-13th (Aveni and Gibbs 1976; Millon 1993: 35, Note 7). The Maya long count began around August 11th-13th, 3114 BCE, but the earliest Maya monuments bearing long count dates were erected centuries after the plan of Teotihuacan was established. Besides, Teotihuacanos were famed throughout Early Classic period Mesoamerica for their self-promotion as masters of time, sharing their iconography honoring time, such as the A-O year sign and the pierced disk *chalchihuitl*.²⁷

The Aztecs of Mexico believed that creation of the present Fifth Age had taken place in Teotihuacan (Sahagún 1978 [1569]: 3: 1). Hence the beginning of time may have been commemorated in the second Teo West sunset of the year, 105 days after the first.²⁸

East-West Avenue was thus potent with meaning for processions of city folk and pilgrims at festival times, or of priests or merchants – in fact, anyone traveling along West Avenue toward the city’s main crossroads would see the Temple of the Feathered Serpent straight ahead, rising above the perimeter platform of the Ciudadela. When the course of West Avenue joined by that of the outflowing Río San Juan, the river’s origin would seem to have been claimed by the Feathered Serpent pyramid, where it flowed along the levels of the pyramid’s watery, serpent-y façade. Reading the dramatic messages rendered in paint and bas-relief, pedestrians approaching it would acknowledge this concatenation of sacred elements.

Unfortunately, we cannot share this dramatic view, which has been made unrecognizable by modern development. In antiquity, the Feathered Serpent pyramid interrupted East-West Avenue (the city’s

major perpendicular axis), which ran in both directions for miles.²⁹ East-West Avenue is still discernible in the archaeological record as a major component of the grid (Millon et al. 1973), and the temple’s orientation toward Teo West made it an important observation post for sunsets at the end of April and in early to mid-August. As the afternoon sun streamed east through the doorway of the temple of the Feathered Serpent, the view from there to the sunset encompassed West Avenue and the canalized Río San Juan, shimmering with light like the glittering scales of serpents. The temple may have been crowned by a feather panache made of heavy ceramic pieces, spelling out the authority ruling the city (Sugiyama 2005: 76-77). By posting these powerful iconographic messages in the city’s size, organization and monuments, Teotihuacan declared its greatness.

The river’s course turned away from West Avenue at the western edge of the Great Compound, thought to be the city’s center of mercantile activity (Sload 1987). Between the Great Compound and the Ciudadela ran the Street of the Dead, and the north view of the pyramids was unobstructed and dramatic (see Figure 12).

While the Street of the Dead above the Río San Juan was highly restricted, the East-West Avenue seems to have been a common path, put to practical use by merchant caravans, pilgrims from afar, and ordinary citizens going about everyday lives. But the heavy investment in iconographic propaganda suggests that this was also a processional way, a place to celebrate festivals and honor the gods.

Teo III: The Mature City and Integrated Hydrological System

During Teo IIA through III-B (Tlamimilolpa and Xolalpan ceramic phases) the city achieved greatness and beauty, with the extension of the grid across Teotihuacan's greatest area, about 20 km². Housing on the grid replaced contour terraces of arable land, thus demanding steady extension of the rainfall-dependent floodwater cultivation method on the alluvial plains of the middle and upper valley, all above the spring line. In the lower valley, population increase would spur regulation of dispersal of water from the

springs. All these factors heightened dependence on water management, and Teotihuacan's rulers responded by channeling the rains, either directly or as runoff, controlling the outflow from the springs, and enlisting the help of the gods.

The murals thought to date from this period are abundant and explicit in concerns with water and fertility, and with ritual processions. In the Temple of the Plumed Shells, they show buildings surrounded by orthogonal freshwater streams (**Figure 24**).

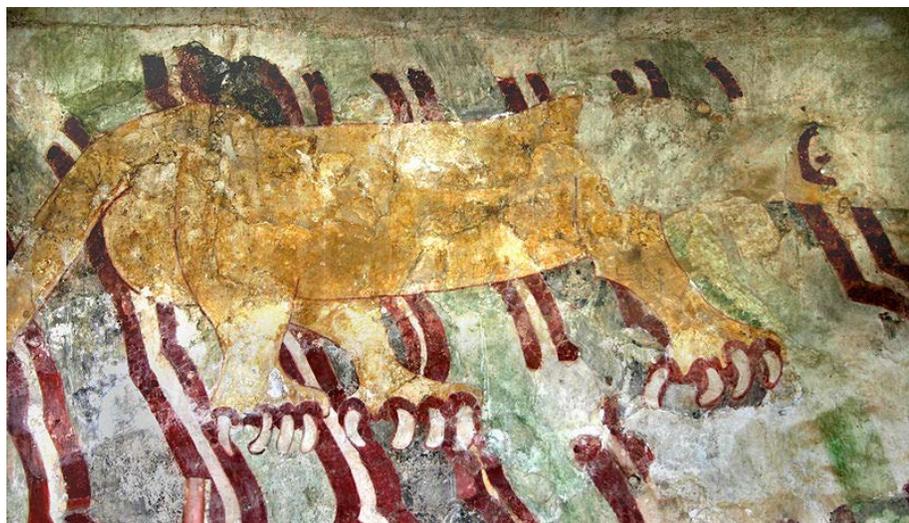


Figure 24. In the deeply buried reaches of the Temple of the Plumed Shells, Substructure 3a, murals 1 - 3 probably depict architecture, with a border of rectilinear freshwater canals. (adapted from Fuente 1995k: 113, Fig. 11.3; Miller 1973: 61)

The "Gran Puma" mural, on the east side of the Street of the Dead, has a background of irrigation canals and bottom border of pierced chalchihuitl disks

(**Figure 25**). It was probably part of a series of murals showing pumas stalking south, in procession.

Figure 25. On Platform 16 along the northern Street of the Dead, the "Gran Puma" heads south, probably part of a puma procession. (mural 2: •Fuente 1995l: 7.1: 83, 85; Miller 1973: 69). (https://commons.wikimedia.org/wiki/File:Jaguar_Mural,_Teotihuacan.jpg (image by Victor Hugo de Lafuente Flores; the Creative Commons Attribution 3.0 Unported; Attribution: Vhla Fuente at English Wikipedia)



Emergence of the Mature City

The Teotihuacan Mapping Project determined that the mature city (Teo III and IV) covered about 20 km² and included all its major ceremonial monuments and a secular one as well: the monumental housing project that built about 2,300 residential compounds, each capable of housing several dozen people (**Figure 26**). A popular

estimate for the total maximum population is about 100,000. Calculating the probable maximum population by various means, Cowgill presented a range from 30,000 to 140,000, noting “the difficulty of estimating prehistoric populations. For what it’s worth, the midpoint ... is 85,000” (2015: 143; see also p. 144), and this is a plausible estimate.

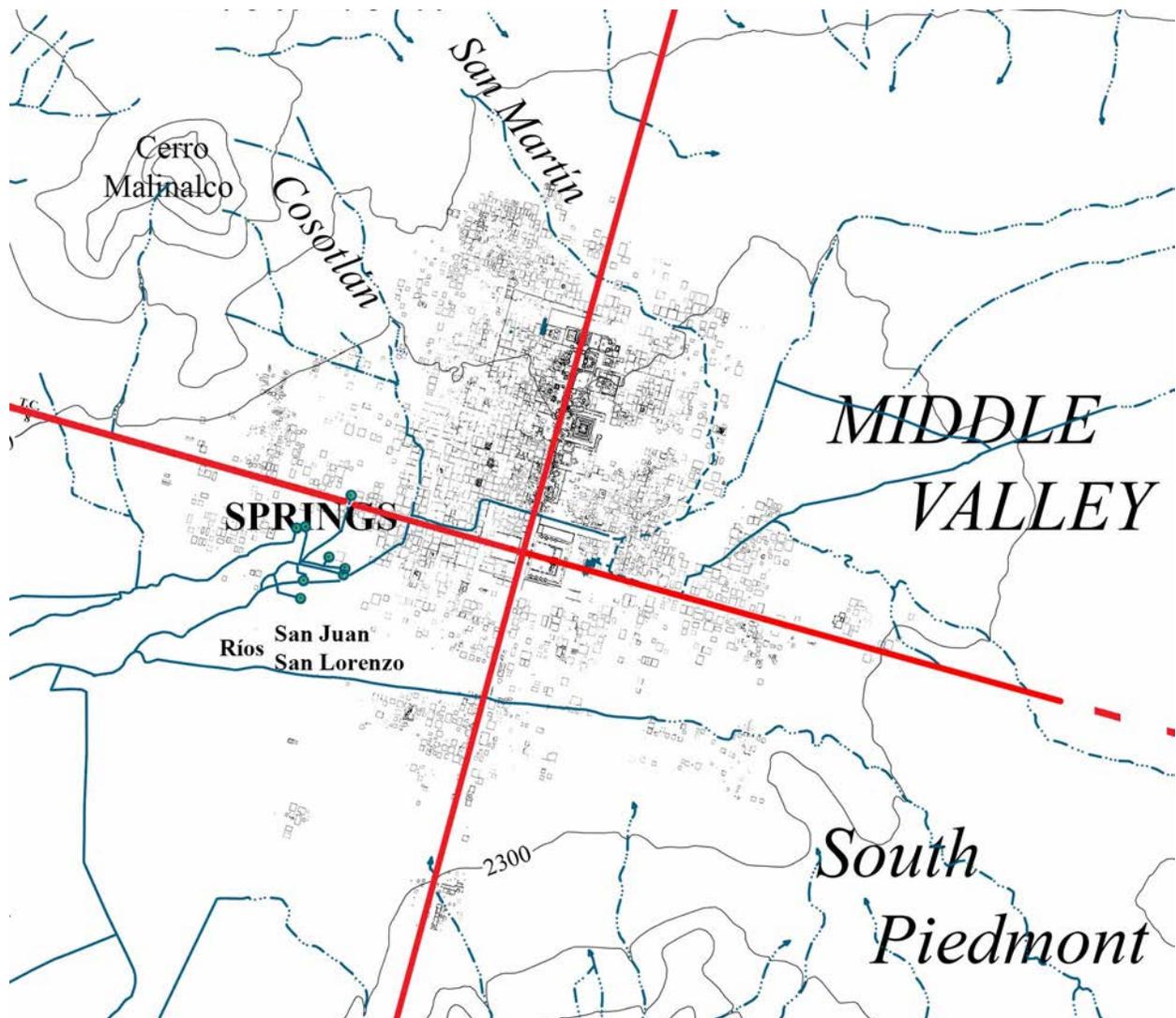


Figure 26. The mature city of Teotihuacan in its setting. (detail of Figure 1)

Apartment Compounds:

Most scholars agree that construction of substantial houses called “apartment compounds” took place after the southern complex was established, perhaps even after the prestige of the Feathered Serpent cult was diminished by the damage to the original façade and construction of the *adosado*.

Apartment compounds probably grew out of clusters of ramshackle patio groups that had been built by the city’s workers for themselves (Angulo 1987a).

The Street of the Dead Compound

It may have been at this time, with the construction of the apartment compounds, that the largest of them – indeed, the largest multi-room building in the city – was elaborated, straddling the Street of the Dead and measuring over 300 meters on a side, fifty times larger in area than a typical compound measuring 43 meters on a side.³⁰ The Street of the Dead compound may have been the city’s main administrative palace during Teo III times, and while parts of this massive building are quite old, its mature architectural expression is situated just north of the Río San Juan and so may post-date canalization. The new river course cut across the plain and through a slight rise in elevation for about 500 m, crossing the path of the Street of the Dead.

Unlike other Teotihuacan civic-ceremonial structures, the Street of the Dead compound does not pierce the skyline with an effigy mountain. Still, its massive presence was a major obstacle against accessing the Street of the Dead, midtown and north. As Figure 13 showed, the Street of the Dead compound’s southern façade is a barrier to continued northward progress,

In what was clearly a state-directed effort, new apartment compounds enclosed and formalized insubstantial room groups, transforming them into multi-patio residences surrounded by high walls, conforming to Teo North and West. The grid of the expanding city included drainage through and around the compounds, routing runoff and household waste down to the spring line where it joined the flow from the springs.

the first of six platform barriers for pedestrians to surmount before reaching the southern edge of the Sun Pyramid and open access to the northern avenue and the Moon Pyramid (from which there were at least two other exits).

We should remember that in addition to the sense of visual and kinesthetic restriction for those south of the barriers, there would also be an energetic cost for believers permitted to enter the Street of the Dead compound and continue north, winding up and down the platform barriers in order to pass review by the city’s rulers and finally, on the other side, gain unobstructed connection with the great water mountains grouped on the other side. The barriers shaped the choreography and rituals of the processions that moved over them, and as the last, northernmost barrier was surmounted, pedestrians would have a heightened sense of relief and open space.

The view north toward the Pyramid of the Moon from the Street of the Dead south of the Pyramid of the Sun deliberately disorients the viewer and lends a jolt of animation to the landscape (see Figure 12)

(Evans and Berlo 1992: 9; also Headrick 2007: 1-2). The Moon Pyramid seems encased within the looming bulk of Cerro Gordo, which pulls toward us, an optical illusion resulting from the relative sizes, shapes, and positions of the Sun and Moon pyramids and the mountain. The pyramids have similar proportions and their summits are of equal elevation, but the Sun Pyramid, downslope from the Moon Pyramid, has markedly greater volume and height.

The planners seem to have counted on the common human perception that two

The Springs and Rulership

The water mountains gave birth to the springs, which, at Teotihuacan, pulsed out from beneath the southwestern edge of the basaltic shelf constituting the outer edge of Cerro Gordo. Over time, apertures of

things of similar shape will be similar size, and perhaps on the common expectation that the focal pyramid at the end of the causeway would be larger than one along the side of the monumental causeway. We are disoriented by having to reconcile the effects of this subtly altered reality, which makes the sacred landscape seem even more dynamic, intensifying the sensory experience of any celebrant in this setting. Here, the city's planners accomplished one of their cleverest manipulations of cognition.

springs erode into caves, the habitats favored by felines, including (in Mesoamerican tradition) jaguars, sacred to the Aztec rulers and to their mercurial great god, Tezcatlipoca (**Figure 27**).³¹



Figure 27. Priest costumed as Tezcatlipoca's jaguar avatar in his guise as Tepeyollotl. (Codex Ríos (1964 [after 1566])).

Felines are pervasive in Teotihuacan art, and their association with rulers may be substantiated by a young puma buried in the Moon Pyramid. It may, as Nawa Sugiyama argues, have contributed to the transformation and animation of “the monument into one of the sacred mountains, possibly an *altepetl*, thereby becoming a place embedded within the highly dynamic socio-cultural landscape during a period of rapid development of a highly hierarchical urban metropolis” (2013: 46).

The mature city's grid encompassed the springs at the city's southwestern edge, and they were probably under the control of the state (Evans 2010a; 2010b; Evans and Nichols 2016). The extension of the grid of streets and canals to the springs opened up opportunities for more productive use of the lower valley alluvial plain. Canals that were cut through boggy areas to drain the land would further increase the area's agrarian usefulness and systematize the canal system, which may have (seasonally) connected to the lake. These permanently watered fields were probably used as perpetual seedbeds rather than as fields where crops were grown

to maturity.³² Seedlings planted out to the fields of the middle and upper valley at the end of the dry season matured early, as long as the rains were timely and sufficient.

Some of the city's murals suggest that the springs were secured by the state with water temples decorated with symbols of rulership, guarded by jaguars, discussed in detail below. While felines appear in Teotihuacan art throughout its chronology, netted jaguars (aka net jaguars) became particularly prominent in later periods, Teo III and IIIA (Xolalpan), and even Teo IV (Metepec).

Teo IV (The Problematical Metepec Phase): Vigorous But Losing Strength

Teo IV, the Metepec ceramic phase, is widely regarded as the last during which the city functioned effectively, with evidence for construction in the ceremonial center and "some of the finest mural paintings ... [demonstrate that] the Metepec phase was not a time of obvious decline. It may even represent a resurgence, a conscious effort to 'turn around' and to restore the city's appearance of prosperity" (Millon 1988: 144). Most Teotihuacan scholars agree that during the Metepec phase, the city continued to function while seeming to experience a decline in its overall prosperity, by such measures as diminished presence of luxury materials (Sempowski 1992: 51), and chronic health stresses such as malnutrition and infections (Storey 1992: 266). As the settlement systems in surrounding regions expanded, there were fewer immigrants into the city to replenish its population.

The wealthy, however, continued to

afford displays of conspicuous consumption: luxury goods were still in use, and fine murals were painted during Metepec.³³ Elite support for such indulgences was unlikely if the ceremonial center had already been burned and then deserted by powerful and wealthy people seeking refuge in other cities in the Central Highlands.

As these and other chronologies attest, Metepec marked a city still sociopolitically integrated and economically active, but showing signs of weakening. And productivity may have declined as a consequence of the "nuclear winter" caused by the eruption, in CE 535, of proto-Krakatoa (Keys 1999) and a global cold spell, CE 530-590 (Gill 2000: 293). Closer to home, Ilopango (El Salvador) had a massive eruption in the period between CE 441 and 535 (Dull et al. 2001: 27). If the elite could not control the forces of nature, then their privileges could no longer be justified.

The Burning: Beginning of a Calamitous Decline

Metepec – and Teotihuacan’s urban chronology -- ended with the desecration of the ceremonial center by burning.

Thereafter, the city’s slow decline became precipitous, with emigration to other regions and ruralization of local settlement pattern.

When did the burning occur, or begin to occur? Scholarly and popular publications offer a range of dates stretching over several centuries, even as late as CE 900, but as our knowledge has grown about cultural trends there and in other parts of Mesoamerica, many scholars began to adjust their chronologies toward earlier dates, perhaps CE 750. In 1990, a burned context was yielded an archaeomagnetic date of about CE 475 or 500 (Wolfman 1990). More recently, dates of burned contexts at the Xalla compound were recorded as ca. CE 550 (López Luján et al. 2006: 30, citing analysis by Ana Soler). As more contexts are tested using different methods, a larger number of dates will clarify the timing of the burning, which may have consisted of multiple episodes.

The burning was not casual arson. "The fires were concentrated in the city's center, on and near the 'Street of the Dead' from the Ciudadela north to the Moon Pyramid ... [and] formed part of a systematic process of ritual destruction carried out on a monumental scale with such rigor, such intensity, and such violence that its purpose must have been political -- the annihilation of those who led Teotihuacan and the ideology with which they were identified. The result was the annihilation of Teotihuacan political dominance" (Millon 1992: 346).

The burning damaged murals, and seems to have ended the mural tradition in the city. At the southwestern edge of the

Pyramid of the Sun, a wall dated to “la fase final de Teotihuacan, en Xolalpan-Metepec” (Fuente 1995c: 81) was found to bear “remains of the burning, conserving even at the base of the tablero two fresco paintings unfortunately very badly treated by the fire.”³⁴

A recent interpretation of absolute dates of burning in mid-to-late 6th century brought into question the viability of Metepec phase culture at Teotihuacan. Based on dates recovered from the Teopancazco compound, the authors posited that “[d]uring the Metepec phase ... the city's political and administrative institutions no longer existed” (Beramendi-Orosco et al. 2009) but they do not cite any source for this unusual, if not unique characterization of Metepec phase Teotihuacan. They also state that among their 32 radiocarbon ages, “there are no radiocarbon determinations for the Metepec occupational phase in the site.” Because ceramic phases are defined by a set of material culture diagnostics, this must mean that either there were no Metepec materials at Teopancazco, or that they were not associated with dateable materials.

Declaring Metepec as post-urban is simply puzzling, and would require rethinking its diagnostics, which would be redefined as have been produced by squatters like those of the subsequent Coyotlatelco phase presence at Teotihuacan, traditionally regarded as the first post-urban, post-burning occupation of parts of the site. Fitting five ceramic phases, Tzacualli through Metepec, and cultural periods Teo I through IV into a plausible absolute chronology is an ongoing challenge for Teotihuacan scholarship, and composing the “Chronology Chart” (see Figure 11) is universally regarded as an unrewarding

chore, almost certainly needing revision with any further publications. However, the cultural associations of phases have not changed, but seem to have occurred even

more rapidly than previously thought. Metepec phase, as before, ends with the burning.

The Golden Age of Murals, Teo III-IV (Late Tlamimilolpa through Metepec)

Returning to the city at its apogee, we would see the effects of completed construction projects, including the neighborhoods of apartment compounds – and their plastered walls potentially numbering in the hundreds of thousands. On walls of buildings private and public flourished one of the city’s great artistic programs, the murals. Teotihuacanos continued to create Mesoamerica’s earliest known true murals: polychrome paint on specially prepared stuccoed walls (Fuente and Staines 2010: 492). Dazzling lush colors and fantastic themes illuminate our perspective on life in the city. What remains to us is only a tiny sample (about 500 murals, almost all of them fragmentary), which provides a wealth of information, however skewed. The surviving murals favor the middle and later phases of the

city’s active maturity, and larger buildings, which provided more protected contexts.

The murals range widely in size and condition. They have been exhaustively catalogued (Fuente 1995a and 1995b; also Miller 1973), creating a resource of great value for many scholars. The organization of the Fuente catalogue is based on the city’s roughly two dozen locales with murals (see Appendix, Teotihuacan Murals).

Figure 28 offers an instant view of the distribution of mural locales at Teotihuacan. Some locales have many murals, others a fragment or two. The murals cover many themes – warfare, fertility and blood sacrifice, for example – but for the purposes of this study of water worship and processions, three subjects are most important: water (in 80% of the mural locales), processions (ca. 65%), and felines (ca. 50%), all widely distributed.³⁵

Water (and Time) Worship

Of the three themes, water is the most prevalent, possibly because indicators of water have a broader range than those of processions and felines. Water symbols included the obvious rippling blue panels depicting canals and irrigated fields, as well as others more obscure, such as the “eye” symbol for fresh water, often in a canal; others were shells, Tlaloc attributes, and pierced disks (Angulo 1995: 74-78). At the north end of the Street of the Dead, the substructures called “Temple of the Plumed Shells” (under the Palace of the Jaguars and the Quetzalpapalotl Compound) yielded

profile birds with freshwater streams from their beaks, dated to Teo IIA-III.

As noted, the *chalchihuitl* pierced disk carries several big meanings, water among them, as well as the count of time. Other symbols may be appropriate to water and to time, but the focus here is on the annual agrarian and rainfall cycle. Symbols pertaining to other, larger, cycles (ritual and cosmological) are beyond the scope of this study. Nor does space here permit exploration of the effect of water flowing through the compounds, connecting them with the grid.

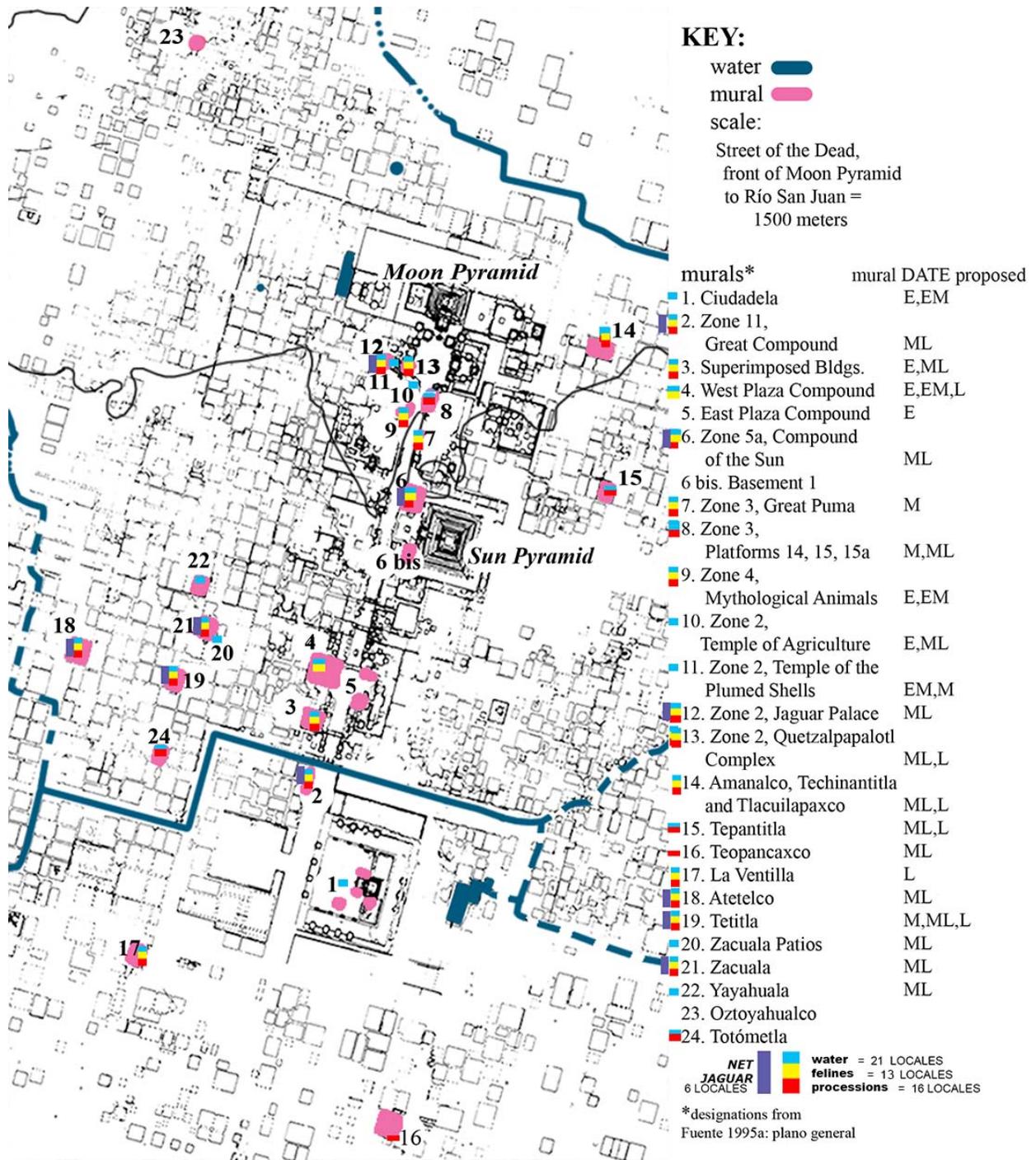


Figure 28. The locations of murals at Teotihuacan and their proposed chronology (see Appendix: Teotihuacan Murals).

Processions

Processions, shown in nearly two-thirds of mural locales (and in 180 of the 500+ murals/ fragments), are suggested by such indicators as figures in profile, particularly multiple figures, often depicted as engaged in scattering of treasures, with song scrolls (or bleeding hearts) emanating from mouths; footprints suggest processions and choreography. The figures are humans, animals, and hybrids. Some are costumed in regalia of rank; others are unadorned (e.g., the Great Puma along the Street of the Dead).

Processional figures line up along the walls of nearly all the apartment compounds that have been excavated, plus on buildings along the Street of the Dead, including the Street of the Dead compound. This widespread distribution illustrates the importance of processions as an activity involving the whole city³⁶, marshaling those

in the lineage-based compounds to make kinesthetic and audial offerings – costumed, choreographed processions with singing and chanting -- designed to control nature and enhance societal solidarity. The plan of Zacuala palace shows locations of murals depicting processions (**Figure 29**). When enhanced by the results of a spatial access analysis by Matthew Robb (2007b), it reveals that even in the remotest reaches of the compound, depictions of processions covered the walls. We can speculate that at the start of great processions, members of the household left their own patio rooms in a customary order, falling into line and departing the compound to join in one of the city's most characteristic rituals. Teotihuacan's walls lent themselves to procession depictions, just as its avenues and grid seem designed for processions.

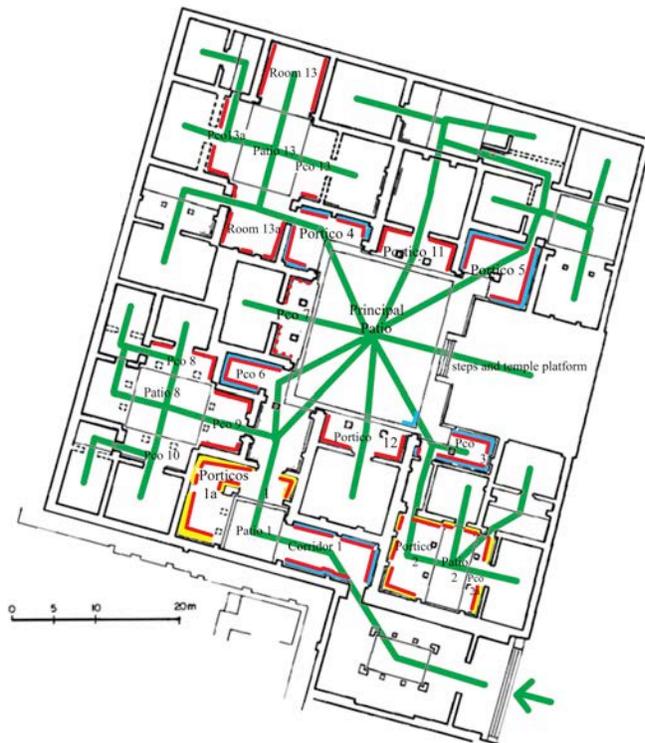


Figure 29. The Zacuala Palace plan links all rooms in the compound to the Principal Patio (green lines, based on Robb 2007b), with murals featuring processions (red lines) found well represented throughout. (Themes under study: water, felines, and processions.) (Plan adapted from Fuente 1995g: 320, Plano 21).

Felines

The murals record a preoccupation with cats at Teotihuacan, depicting them in half the locales. Teotihuacan muralists were careful to distinguish between pumas (mountain lion or cougar, *Felis concolor*) and jaguars (*Felis onca* or *Panthera onca*).³⁷ Teotihuacan is within the natural range of pumas, and some may have occasionally been encountered in adjacent rural regions. Live felines, incapacitated

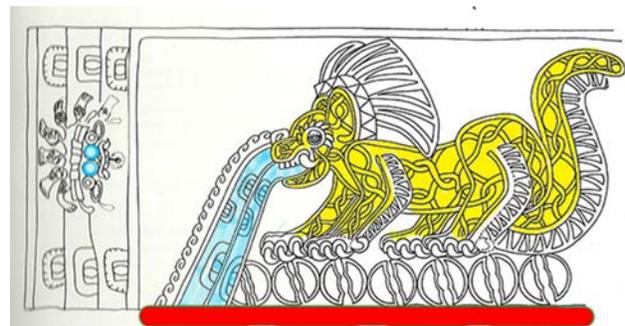
by nets used to trap them and then by cages, were probably brought to Teotihuacan as gifts or in tribute. That may have been the history of the young puma sacrificed in the Moon Pyramid Teotihuacan; skeletal anomalies suggest that she spent much of her life in a cage (N. Sugiyama 2013: 43-44).

Live jaguars in the city would have been much rarer, but possibly brought as gifts or tribute, and the pelts would have been treasured in long-distance trade with the tropics. Live felines may have been carried to their final resting places (such as the Pyramid of the Moon) in processions in

which their strength and power were celebrated.

Felines and serpents have been said to represent powerful lineages at Teotihuacan, with possible dual rulership from the Street of the Dead compound. Teotihuacan's art program, insofar as we assume a reasonable sample over time, features many jaguars, but also shows feathered serpents everywhere, and they are found together.³⁸ And depictions of goggle-eyed Storm Gods also continue, abundantly represented in various forms including abbreviated insignia, and associated with processions (**Figure 30**).

Figure 303. At the northeast corner of the Great Compound, a mural dated to Teo III-IIIa depicts a netted jaguar in procession over a row of cacao beans, spewing fresh water from its mouth while in the mural's border, the Storm God keeps watch. (Themes under study: **water**, **felines**, and **processions**.) (drawing adapted from Cabrera 1995g: 25, Fig. 2.2)



Water, Processions and Felines in Murals of Teo III-IIIa and Teo IV

Contexts in the mature city included the walls of civic-ceremonial structures as well as of the apartment compounds. Once again acknowledging the mural sample's many biases, which inhibit serious generalization on the basis of presence/absence of traits, we note that commonalities are interesting.

The city's civic-ceremonial center murals from this mature-city period are found from the Moon precinct to the Great Compound. In the northern sector of the Street of the Dead, the themes of interest

here are well represented in murals of the mid-to-late and late periods of Teotihuacan's urban history. Near the Moon Pyramid, in the Palace of the Jaguars (overlying the west side of "Plumed Shells"), the dais room faces Teo West; all murals are thought to date to Teo III-IIIa (Xolalpan), and the themes of water, processions, and felines are robustly represented (**Figure 31a** and **Figure 31b**). Contemporaneous murals in the adjacent Quetzalpapalotl Compound share themes of processions and felines (**Figure 31c**).

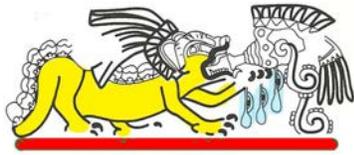


Figure 31a. From one of the porticos around the dais room’s courtyard at the Palace of the Jaguars, ritually garbed felines in procession play conch trumpets that drip with songs and freshwater. (drawing adapted from Fuente 1995h: 115, Fig. 12.1)

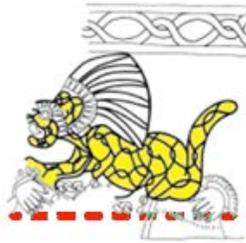


Figure 31b. From the Palace of the Jaguars, a netted jaguar being held by human arms, possibly in procession. (drawing adapted from Fuente 1995h: 121, Fig. 12.7)

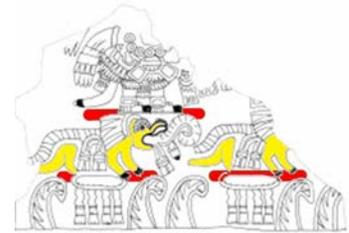


Figure 31c. Adjacent to the Palace of the Jaguars, the Quetzalpapalotl Compound also features felines in processional stance, the posture of the costumed canid above them. (drawing adapted from Fuente 1995i: 128, Fig. 13.4)

Elsewhere along the northern Street of the Dead, more Teo III-III A murals show human figures in procession (**Figure 32a**, from Platform 14; **Figure 32b** from the Compound of the Sun). In the Compound of the Sun, netted jaguars and water imagery

combine (see Portico 3 and Portico 13, in the Appendix). The Great Compound murals, whose netted jaguar was noted above, also had human processional figures (**Figure 32c**).



Figure 32a. Costumed priests in procession are depicted on Platform 14, echoing the living processions that would have filled the Street of the Dead at festivals. (drawing adapted from Fuente 1995i: 88, fig. 8.2, 8.3, 8.4; “según dibujo de Abel Mendoza, 1962-1964”)

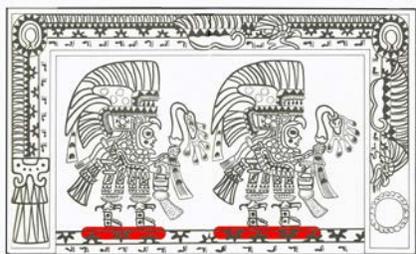


Figure 32b. Avian-costumed warriors carry bleeding hearts impaled on knives in this mural from the Compound of the Sun. (adapted from a drawing by Manuel Romero [Séjourmé 1966: 294-295, fig. 173])

Figure 32c. Priests in procession are shown in murals at the northeast corner of the Great Compound. (drawing adapted from Miller 1973:, Fig.149)



Murals from the apartment compounds tell more complicated stories than most of what remains to us from civic-ceremonial contexts, and feature many processions and demonstrations of water worship, and felines ranging from unadorned pumas to lavishly costumed jaguars. Almost all the apartment compound mural contexts have been dated to Teo III-III A or IV (Xolalpan or Metepec; for details, see the Appendix).

In apartment compounds on the upper east side of the city, murals represent the three themes under study. Techinantitla's set of costumed, Tlaloc-faced personages on the north and west walls (**Figure 33a**) are dated to Metepec by ceramic association (Cabrera 1995a: 132), and other fragments, thought to have originated at Techinantitla, probably also date to Metepec (Pasztory 1993: 194). The Tepantitla compound's seed-sowing priests (**Figure 33b**) are part of the muralistic riches of Portico 2.

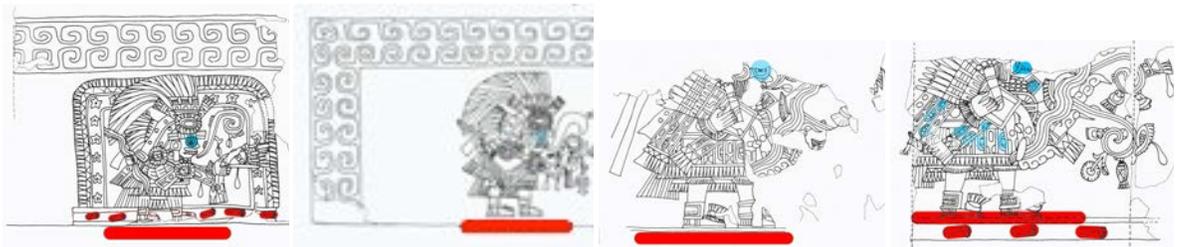


Figure 33a. Surviving murals from Techinantitla suggest that processions were an important theme. (drawings adapted from Cabrera 1995a: 131, fig. 14.1; 136, fig. 14.4; 133, fig. 14.3; 136, fig. 14.4 [all, “según Saburo Sugiyama en Berrin, 1988”])

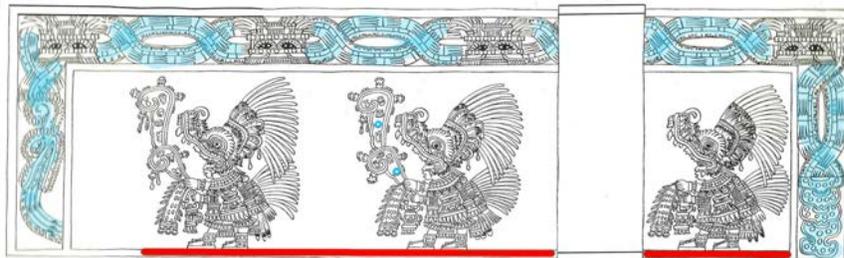


Figure 33b. Tepantitla's wealth of murals includes processional figures such as these seed-sowing priests, with chalchihuitls in their emanation scrolls. Surrounding them, is a feathered serpent, fresh water coming from his mouth. (drawing adapted from Miller 1973: Fig. 173)

At Tepantitla's Portico 2, water mountains preside over “Tlalocan,” Tlaloc's paradise (**Figure 34**) and are surmounted by a deity flanked by profile figures (suggesting a procession, or the completion of one).³⁹ A detail shows canals and fields (**Figure 35a**), drawn with the rectilinear regularity characteristic of drained fields. Perhaps the image pertains to this kind of intensification to permit cultivation of boggy parts of the

lower valley, or to flooded rimmed fields in the middle valley. This pattern contrasts with a different type of canal system depicted, for example, in the background of the netted-jaguar-and-water-temple murals of the Tetitla compound (**Figure 35b**), with its blue ribbons of water curling over a landscape of red fields, clearly a depiction of canals irrigating dry land.



Figure 34. The richness of meaning conveyed by this wonderful mural (Tepantitla Portico 2, Mural 3) is largely beyond the scope of the present study, but water is clearly being circulated in a scene of ideal plenty. (image, courtesy of <https://commons.wikimedia.org/wiki/File:Tlalocan.jpg> [Escocia1; licensed under the Creative Commons Attribution-Share Alike 3.0 Unported license])

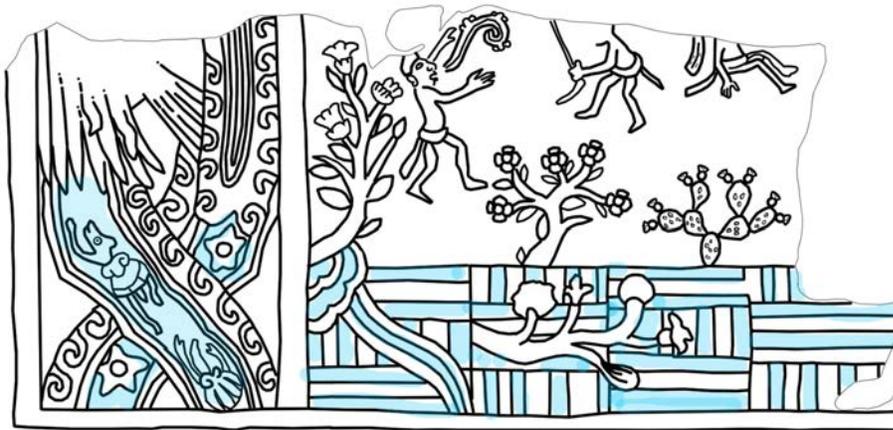
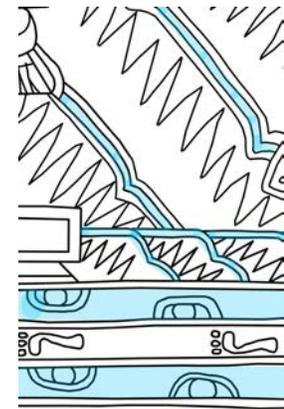


Figure 35a. Tepantitla’s murals venerate water in many forms, and here we see canals alternating with rectangular fields, a pattern common to drained field cultivation, but also to irrigable expanses of the lower and middle valleys, often floodwater-irrigated. (drawing by S.T. Evans from Miller 1973: 98, fig. 167)

Figure 35b. In other murals, such as Tetitla’s Room 12, Mural 8 (also dated to Teo III-III A or IV), detailed here, irrigation canals fed by the springs bring water to feeder canals of increasing range, probably into the alluvial plain of the lower valley. (detail of drawing by S.T. Evans of Tetitla Mural 8, now in the Bliss Collection, Dumbarton Oaks, Washington DC)



Apartment compounds in mid-town west reveal strong muralistic expressions of processions and water, and are thick with felines. Due west of the Street of the Dead compound lie Atetelco, Zacuala Palace, and Tetitla, all larger than the average compound, but long thought of as typical in size and layout because so few other, smaller compounds had been excavated. Atetelco features several mural sets – vertical tableros over sloping taluds – with processional figures in lines, below, and above, where they are set within cartouches formed by crisscrossing diagonal bands of design.⁴⁰ Zacuala Palace also has processional figures and references to the Storm God and to water markers such as shells, and its feline collection includes a

netted jaguar mask, carried by a “Red Quetzalcoatl” (Portico 2, in Appendix).

These three compounds are the only known residential mural locales for netted jaguars.⁴¹ If the jaguar holds the highest rank in the Mesoamerican hierarchy of living creatures (Sahagún 1963 [1569]: 1), then adorning it with valuables, and clothing it in a net must further elevate its status. The netted jaguar has been creditably interpreted as an earlier avatar of the all-powerful jaguar-related god known to the Aztecs as Tezcatlipoca (see Figure 27; Séjourné 1962: 88-90, Figure 102; Taube 1983: 111, 127), patron of rulers and a guardian of caves, which were associated with springs. Tezcatlipoca was also a major focus of prayers and offerings just before the rainy season.

Netted Jaguars in Procession to the Water Temples and to the Teo West Sunset

The most famous netted jaguars are found in the Tetitla apartment compound (**Figure 36**), with 22 known complementary scenes of a water temple and a netted jaguar, linked by the footprint choreography of a procession on the causeway between canals. These scenes were found in three rooms (12; Cor. 12; Cor. 12a) adjacent to the compound's main entry courtyard, Patio 13, whose portico murals showed processions of costumed, singing human figures and animals.

Room 12's eight netted jaguar murals are in two processions toward the Teo West sunset at the start of the rainy season (and on the birthday of the cosmos). The processions converge at the door leading into Room 12a and facing its Teo West wall, where Mural 5 features a horizontal line of red disks, each about 0.5 meters (20") across (**Figure 37**). These symbolize the sunset at due Teo West, positioned to mark the end of the dry season and the birth of time.⁴²



Figure 36. Tetitla apartment compound, showing entry Patio 13 and adjacent areas with netted jaguars and (Room 12a) sun disks (drawing by S.T. Evans, based on Miller 1973).

The more immediate focal points for Room 12's jaguars are the water temples. The water temples are important iconographic signals of state control over the springs, permanent freshwater sources in an arid environment. The water temples and mural borders teem with important signifiers of state power and rulership: jaguar skin, tassels, jade disks, mat, plumes, and sawfish

Figure 37. The west wall of the Tetitla compound's Room 12 features facing murals and a doorway through to Room 12a, with a Teo West wall of red suns. (collage combines [from left] Mural 7 reconstruction drawing by Aurelio Sánchez [Fuente 1995d: 305, Fig. 19.38]; doorway border reconstruction by Santos Villasánchez [Fuente 1995d 306, Fig. 19.39]; Mural 5 [setting suns] in Room 12a, photo by Leticia Staines [Fuente 1995d: 301, Lám. 74]; Mural 8 reconstruction drawing by S.T. Evans)



rostra. The temples gush spring water into rectilinear canals with causeways, linked to smaller irrigation canals snaking over the fields in the background. In this scene, the jaguar is the supplicant, the worshipper

before the temple and its flow of fresh spring water (**Figure 38a**), much like the angel bowing before Saint Mary in Leonardo's "Annunciation" (**Figure 38b**).

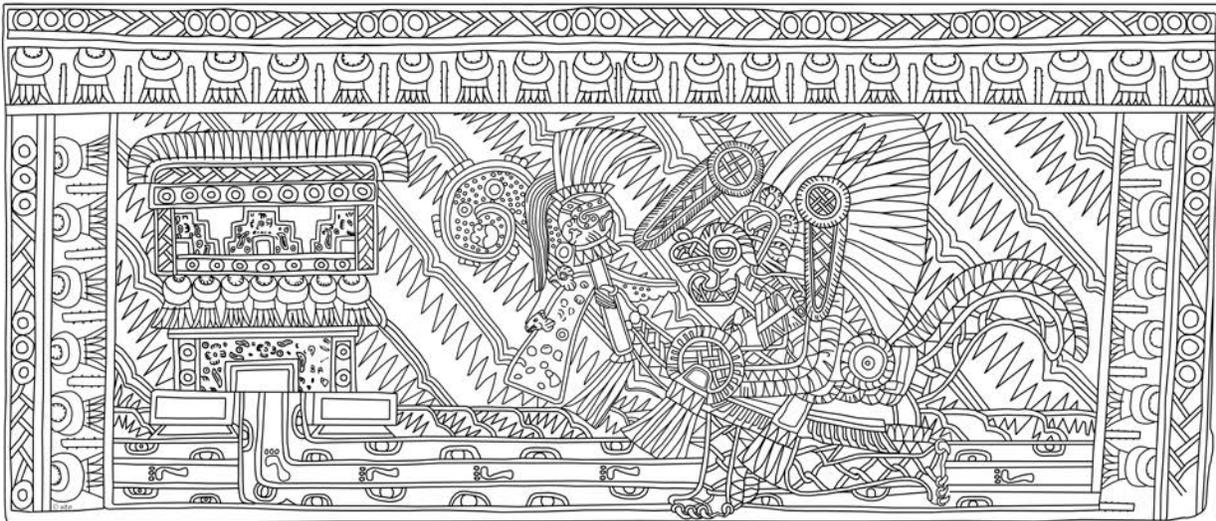


Figure 38a. Reconstruction drawing of Tetitla Room 12 Mural 8, now in the Bliss Collection at Dumbarton Oaks, Washington D.C. (drawing by S.T. Evans, based on Mural 7 and Mural 8)



Figure 38b. In another balanced scene of reverence, the angel Gabriel bows before the Virgin Mary in Leonardo's "Annunciation" (1472-1475). (drawing by S.T. Evans, after and reversing the image by Leonardo da Vinci; see also Evans and Nichols 2016: 39, Figure 2.6)

The netted jaguar murals depict water worship and procession at Teotihuacan, and express many ways in which the jaguars show respect and beg for

blessing from the springs: in posture, costume, song, offerings. The footprints along the causeways next to the freshwater canals provide the choreography for processions to and around the water temples,

and continuing toward the Teo West sunset. The springs would be linked to all other aspects of hydrology, requiring regular rains for replenishment; concatenating worship of springs and rainy season made acts of veneration even more intensive.

While these scenes may draw on the city's general mythology (the netted jaguar appears in other contexts), they may also refer to a totemic lineage, and suggest some of the costumes of figures in real processions, and the meaning of their songs and the sounds of their rattles.

Water Worship and Processions Under Spanish Rule

After the demise of the civic-ceremonial center in the 6th century CE, the city's great period of artistic ascendancy also ended. Visual records ceased and the central governmental system that kept the grid and canals in order stopped functioning. A circle of villages formed around the deserted core of the site, and the largest village, Teotihuacan, was at the springs. Teotihuacan remained "the largest urban

center in the northeast Basin throughout the Postclassic" (Nichols 2013: 65).

With the conquest of Mexico by Spain, the town was renamed San Juan Teotihuacan, and the church of Saint John the Baptist was established next to one of the most vigorous springs (**Figure 39**). The saint's name was another acknowledgment of the association of an important water source with sacred principles.

Figure 39. In the close of the Cathedral of Saint John the Baptist at Teotihuacan, a quiet pool marks the outflow of one of the surviving springs.
(photo by William Mather III for the Teotihuacan Valley Project)





Throughout Early Colonial Mexico, churches were built on temple platforms, to take advantage of the spiritual prestige already accrued to the site, to simplify church construction, and sometimes to take possession of a key resource. The church of San Juan no doubt occupies the former site of a water temple, a cultural tradition easily traced back to Teotihuacan from Aztec times (Figure 40).

Processions are very much a part of the Christian tradition, particularly for the Roman Catholic Church. Here where the springs created the Teotihuacan Valley’s only permanently irrigated fields, processions at the church over the past five centuries have continued to honor this sacred place.⁴³

Figure 40. The “Maguey Plan” (1990 [1557–1562]) was painted a thousand years after the walls of Tepantitla and Tetitla and other compounds showed scenes of canals and drained fields, and has much in common with Teotihuacan’s compositional language: footprints along the causeways and the canal’s blue swirls seem descended from Teotihuacan symbols. The settlement pattern is different, because unlike the chinampa-dwelling Aztecs, Teotihuacan farmers lived in the city and commuted to their plots. At top center, a water temple overlooks and probably controls a crucial intersection of canals and causeways. (adapted from Evans 2013: 471, Figure 17.14)

Water Worship, Processional Space, and Teotihuacan’s Orientation

In the landscape of the Teotihuacan Valley we see the reasons why the city was carefully situated in its mid-valley location. Teotihuacanos were water-worshippers who learned practical and spiritual ways to insure the best use of the valley’s scarcest essential resource. Their grid pointed west to the rains and to the start of time, and north to a commanding water-mountain. The nexus, the crossroads of these powerful resources was the intersection of the Street of the Dead and East-West Avenue. It was directly

overlooked by the Temple Pyramid of the Feathered Serpent (and more distantly by the Pyramids of the Sun and Moon). The arena-like space created by the intersection would concentrate the animated power of the sacred principles worshipped by the Teotihuacanos.

The spiritual forces that motivated Teotihuacanos are still not well understood, but through many lines of evidence we comprehend better its ritual life. We can imagine a procession approaching

Teotihuacan along West Avenue, city dignitaries wearing broad hats decked with tassels of office that would swing in synch with the great communal songs and dances. Perhaps the procession included celebrants returning to the city from rites at the water temples situated over the springs, or from rites honoring the sunset at the time of the rains. Their songs may be poems, tributes to all the signs of fertility and riches – the imagery that filled the net jaguar’s scroll. They might be extolling the right of the state to control the city’s hydrological resources, praying that the late spring rains would be

dumped from the afternoon skies as if from great ollas. The water draining over the city would become a glittering lattice of straight lines moving toward the setting sun in hydrological procession.

Regardless of the details of any processional ritual, Teotihuacan’s art and built environment are rich with clues about Teotihuacanos’ reverence for water in all its forms, and how this essential resource prompted their innovations and changes in landscape modification and in water worship deities and rituals. Teotihuacan was built for water-worshipping processions.

Acknowledgments

Much of this research was based on the results of the Teotihuacan Valley Project, directed by William Sanders; the project’s documentation of the valley’s cultural ecology and changing patterns of settlement is crucial to understanding the city’s orientation and position.

Thinking about the city’s orientation involved long conversations with Tony Aveni, carried out almost entirely in my own head. I thank Tony for being an inspirational teacher and colleague, and of course do not hold him responsible for his side of our intra-cerebral chats. Chip Stanish, another follower of processions toward the sunset (Stanish 2014), encouraged me in further study of Teotihuacan, a pursuit that had become serious during an extended fellowship at Dumbarton Oaks, when I studied the “Net Jaguar Mural” (more properly, the “Water Temple and Net Jaguar Mural”).

This paper presents and discusses several lines of evidence substantiating the importance of processions at Teotihuacan. Previous abbreviated treatments of the topic (Evans 2014; 2015a; 2015b) have prompted much-appreciated comments and suggestions by Lorraine Aveni, Tony Aveni, Sue Bergh, Elizabeth Boone, Clemency Coggins, Tom Cummins, Ken Hirth, Susan Hirth, Leonardo López Luján, Diana Magaloni, Juan Antonio Murro, Emily Umberger, David Webster, Lucy Wilson, and Scott Wilson. I appreciate the use of images shared by David Carballo, Larry Gorenflo, and William Mather III, and particularly access to Teotihuacan Valley Project images, curated by Kirk French.

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Notes

¹ Prior to about CE 1600, the Valley of Mexico was a hydrographic basin, and therefore “Basin of Mexico” is used in discussions of the setting in antiquity and the Early Colonial period. Total area was about 8,000 square kilometers, including the lake system.

² A drought named after summer “Dog Days” when the “dog star” Sirius is ascendant (López Corral 2011: 120-129).

³ The valley’s cultivation zones were categorized according to access to water, as shown by ethnographic research done by William Sanders in the Teotihuacan Valley in the 1950s. See Figure 12, below.

⁴ At least half the Teotihuacan Valley’s Aztec era population were maguey farmers living on terraced farm plots edged with *agave* (Evans 1980); fresh maguey sap supported potable beverage and nutritional needs (Evans 1990).

⁵ Household ritual items include imagery associated with the Old Fire God, such as braziers in his image and bearing his signature rhombus design, honored at Cuicuilco, along the edge of the brazier bowl (the god’s round hat). The great pyramid at Cuicuilco was a truncated cone, suggesting volcano reverence, but no Teotihuacan

pyramid was conical. These circumstances suggest a scenario that the Old Fire God was brought to Teotihuacan by people who did not dominate the city's ideological agenda but who retained this veneration for personal rituals.

⁶ Figure 11: [1] INAH designations, concordance with ceramic phases based on Millon 1976: 213, who cites Acosta 1964: 58; [2] based on Cowgill 2015: 11, Table 1.2, and 83, Table 6.1; other sources include Lopez Lujan et al. 2006; Nichols 2015; Robb 2007; Stoner et al. 2015: 21; Sugiyama et al. 2013: 419; Sugiyama 2012 (Fig. 15.4 chron table): 221. Dates of burning: CE 550 burning: López Luján et al. 2006; CE 500 burning Wolfman 1990.

⁷ The phases are usually presented in the same order, with some anomalies: Armillas's pioneering ceramic sequence reversed two phases (Xolalpan, he and Linné believed, predated Tlamimilolpa) and does not mention Metepec (Armillas 1991 [1950]: 223).

⁸ The terminology established by the Instituto Nacional de Antropología e Historia de México (Teo I, etc.) has much to recommend it, not the least of which is pronounceability. What we cannot pronounce, we have difficulty comprehending, so it is regrettable that the ceramic phase names (in Nahuatl) are in more common use than INAH's cultural periods. With all due respect to those who devised, instituted, and continue to use Teotihuacan's ceramic phase names, they are impenetrable to non-specialists, including many students. Pronunciation: the phase names, in order, are: kwahnahlahn, pahlahcheekay, zahkuallee, mickahohlee, tlahmeemeelohlpah, showlahlpahn, mehtahpehk, and koyohtlahtllkoh. Or, use the INAH system: *tayoh One*, *tayoh Two*, and so on. Teo III (Late Tlamimilolpa and Xolalpan ceramic phases) is the apogee of the city.

⁹ Teotihuacan also seems to have drawn upon nearby regions of the Basin of Mexico for sustenance, such as the Cuauhtitlan area (e.g., see Clayton 2013).

¹⁰ The maguey-edged farmstead terraces established in the Postclassic period followed the contours of the land, perhaps reusing maguey terraces established much earlier, in Teotihuacan times. In the Classic period, the valley's farmers lived in the city and worked on fields on the piedmont and in the plains of the middle and lower valleys, as shown by the settlement surveys of the valley (Sanders, Parsons, and Santley 1979; Sanders (ed.) 1994; 1995; 1996a; 1996b).

¹¹ Discussing a Maya concept of an individual's ambient space, the *-ichnal*, Houston and Stuart write: "How are we to relate this to movement and perception in Classic Maya buildings? The meaning of a place comes not only from architectural setting, usually vertically disposed, but from the fact that something is being done and that several people are involved in undertaking or supervising such an action. In this view of place, architecture becomes, not surprisingly, a prop — even if a grand one — for reciprocal, socially meshed behaviour that has the formulaic repetition of ritual." (2000: 289).

¹² My translation of "la conexión íntima que existía entre el ciclo agrícola -o si se prefiere de germinación y desarrollo vegetales-, y el de las celebraciones religiosas que se sucedían dentro del sistema calendárico de los antiguos mexicanos" (Castillo 1971: 77).

¹³ Milbrath cites Umberger (1981); Broda (1982: 93) and Aveni et al. (1988: 289-90).

¹⁴ Edmonson wrote that in Mesoamerican calendars "the correspondence of the months from one calendar to another is only partial ... [but] all such relations among the native calendars are permanent and invariant, because none of them ever had intercalary leap-year days, at least before the Conquest." (Edmonson 1988: 9, also 78, 83, 85, 88-90, 97, 107-09, 136, 192, 204). In contrast, Tichy believed that the solar year (365.25 days) was followed by the Aztecs (1981: 231, 233, 236-237).

¹⁵ Other sources were identified and assessed by Rafael Tena; see 1987: 53-75; 118.

¹⁶ Sahagún said, of Izcalli, "And every four years, in this same feast, they slew slaves and captives in honor of this god. And they pierced the ears of all the children who had been born in those years, and they gave them godfathers and godmothers." (Sahagún 1981 [1569]: 2: 33). Also, "[t]here is conjecture that when they pierced the boys' and girls' ears, which was every four years, they set aside six days of Nemontemi, and it is the same as the bissextile which we observe every four years." (Sahagún 1981 [1569]: 2: 35). In Castañeda's 1580 "Relación de Teutiúacan": "sobraran cinco dias en un año que ese era bisiesto porque cada quatro años serraban al numero de beynte [sic] que era vna fiesta en vna placa [sic] grande que se hazia entre los dichos cues" (1979 [1580]: 222). "And it was called 'The Drunkenness of the Children' because all the children still lying in the cradle danced [Nahuatl: *vnmitotiaya*] in the Temple of Ixcozauhqui [and] everyone became intoxicated, [including] the children. ... exactly what was done in Atemoztli was likewise done [now]. It occurred on the thirty-first of January; hence it was called 'The End of

Izcalli.” (Sahagún 1997 [ca. 1559]: 67). “Taking Out the Children” “They took all the small children there to the temple of the devil [and] they had indeed all of them dance [*quimitotiaya*] and drink *octli*.” Note 26, by Thelma Sullivan: “The Spanish versions of the *Historia* (Sahagún 1975: 168; 1988, I: 193) do not translate this passage but do specify that this ritual occurred every four years in Izcalli.” (Sahagún 1997 [ca. 1559]: 78).

¹⁷ An exception was made for warriors, who, four years after death, would return to earth as butterflies or hummingbirds (Ortíz de Montellano 1990: 49).

¹⁸ I follow Sahagún’s date, February 2nd Julian (thus the 12th, Gregorian), used by Johanna Broda (this volume), recognizing that the same seasonal changes are linked with the agrarian ritual calendar regardless of variation in new year dates. See Sahagún 1981 [1569]: 2: 1; Durán used March 1st Julian, thus the 11th, Gregorian (1971 [1579]: 212). Alfonso Caso’s interpretations are accepted by many scholars. In Caso’s 1971 overview article, Durán placed Izcalli as the first *veintena*, beginning January 24th Julian, February 3rd Gregorian (1971: 341). Recent scholarship by Rafael Tena places the beginning of the Aztec new year at Gregorian date February 23rd (see 1987: 104-109).

¹⁹ But Heyden posits that “Toxcatl signifies ... ‘that which is slippery’ -- that is, the dryness does not end with a bang but slips into the wet season at that time” (1991: 188).

²⁰ “Toxcatl, cuja serimonia era tomar maiz de las sementeras e tostallo...” (Castañeda 1979 [1580]: 216).

²¹ Eating corn and beans together reflected confidence that crops were maturing satisfactorily, that “[t]here was to be no famine .. indulgence was given to eat this combination, thus indicating abundance” (Durán 1971 [1579]: 431). As Durán wrote, “[s]ince during my childhood I ate [etzalli] often, I can explain that it is a sort of bean stew containing whole kernels of corn. It is ... very tasty, ... so greatly desired that it is small wonder it had its own special day and feast on which it was honored.” (1971 [1579]: 430).

²² Important sources on Aztec dance include Dallal 1986, Kurath 1960, and Martí and Kurath 1964.

²³ In contrast to these descriptions, Sahagún’s informants for the *Florentine Codex* Book 2 only occasionally mentioned dance and procession, having instead a focus on protocols for repaying debts to the gods, particularly related to the preparation of deity impersonators and their sacrificial rituals.

²⁴ See Cabrera Castro and Sugiyama (1982: 167); based on the height of the surviving inner mound, the summit height included a level above that derived from Marquina’s (1999 [1951]) reconstruction of six levels, and this revised estimate of seven levels accounts for differences among published reconstruction drawings.

²⁵ Chicomecoatl’s feast day was around September 8th (Durán 1971 [1569]: 29, note by Horcasitas and Heyden), and the Aztecs celebrated Ochpaniztli, the harvest *veintena*, by ceremonies to maize deities Centeotl (male) and Chicomecoatl (female) (see DiCesare 2009; Nicholson 1971: Table 3 [between pps. 408 and 409]; Sahagún 1981 [1569]: 2: 62-63).

²⁶ These are two of only three access points to the northern Street of the Dead in the mature city (Murakami 2014: 38, 39, Fig. 2.2).

²⁷ The pierced disk motif directly represents a *chalchihuitl*, and is iconographically associated with sanctity, particularly the sacred status of the rulers (Evans 1991; 2010b; 2010c). It has these associations as early as the Middle Formative period in Guerrero (Grove 1970: 17, fig. 13) but in the Early Classic period came to signal Teotihuacan influence elsewhere in Mesoamerica. The motif is interpreted as representing Teotihuacan contact in the Guatemala highlands (Borheygi 1965: 24), at Copan (Structure 26, see Fash and Fash 2000: 456), and especially at Tikal, where a platform base in the Central Acropolis uses both talud and tablero architecture and the disk motif. Of course, the ball court marker in the Teotihuacan-influenced Mundo Perdido section of Tikal has a pierced disk frame resembling the collars of Feathered Serpent heads at Teotihuacan’s pyramid honoring the Feathered Serpent, and honors Spearthrower Owl, a Teotihuacan-associated figure dating to CE 378, in Teotihuacan’s greatest period of power (Stuart 2000: 483).

²⁸ Scholars have long noted the symmetry of this period with the stretch of 260 days (length of the *tonalpohualli* divinatory almanac “year”) separating the two sunset events through winter (see S. Sugiyama 2013: 5). The importance of the Street of the Dead and east-west orientation in Teotihuacan time worship is substantiated by calendrically significant counts of measurements of the mature city’s monumental architecture in TMUs (Teotihuacan Mapping Units, about 83 cm [ca. 33”]), elucidated by S. Sugiyama (2005: 41). On the basis of these measurements, Sugiyama believes that the city’s “religious center was spatially divided to symbolize centrally the 260-day ritual calendar unit” (2013: 3) and that “the size of the original Sun Pyramid and Building 4 found in the

Moon Pyramid represented 260-day period and 105-day period respectively according to TMU studies; they would together have symbolized one solar year cycle (365 days)” (2013: 5).

At about 83 cm (per Sugiyama 2005: 41), the TMU is a little longer than the standard military step length of 70 cm (30”), which is about the longest stride a healthy modern adult male can comfortably sustain. However, the step-length in a procession would be highly variable, as would choreography and other factors such as the pace of those carrying or hauling structures, including litters (David Webster, personal communication 2014).

²⁹ Site TC 8 (Maquixco Bajo), a small town, was five kilometers west of the Street of the Dead, straddled the course of the East-West Avenue, and had a gridded layout (Sanders 1994: 10-41).

³⁰ Cowgill notes that areas of the city vary as to apartment compound dimensions (2015: 155). Those in the northwest are unusually small, those in midtown are closer to the traditionally accepted “average” dimensions of 60 m by 60 m, which reflects a sampling bias toward the larger compounds nearer the ceremonial center of the city. The actual average size is probably about 43 by 43 m (about 140 feet on a side) (ibid. 142).

³¹ In discussing Teotihuacan’s caves and jaguars, Heyden pointed out that “en los códigos pictóricos, y el glifo para ‘cueva’ está formado por la boca abierta del monstruo con caracteres de jaguar” (Heyden 1978: 30).

³² Relación de Acolman (Castañeda 1979 [1580]).

³³ The Tetitla compound’s Water Temple/Net Jaguar murals were dated by Millon to mid-Metepec, based on analysis of the stratigraphic pit in Room 12a excavated by the Teotihuacan Mapping Project (Millon 1992: 348).

³⁴ My translation of “huellas de incendio, conservándose aún en el fondo del tablero dos pinturas al fresco desgraciadamente muy maltratadas por el fuego”, by Batres (1906), quoted by Fuente (1995c: 81).

³⁵ In the color blocks, blue marks water, yellow marks felines, and red marks processions. This color coding is maintained throughout the long table of murals (see Teotihuacan Murals, an Appendix).

³⁶ Similarly, Mardi Gras festivals in New Orleans (and other cities) involve many small neighborhood processions in addition to the lavish displays by wealthy krewes.

³⁷ See overview, Evans 2013: 166-169. The mural painters also distinguished canids -- coyotes -- from the cats by painting distinctive characteristics such as fringes of fur on the edge of the ears, backs of the legs, and tail (see Atetelco, White Patio, Portico 2, murals 1-4).

³⁸ Perhaps they are “possibly locked in an epic battle” as Uruñuela and colleagues found in a depiction of jaguars and feathered serpents while investigating the Great Pyramid at Cholula (Uruñuela et al. 2013: 102).

³⁹ A 5th-century visitor to Tepantitla, a handsome apartment compound about half a mile east of the Street of the Dead in the city’s upper east side, entered the west side of the building, into an unroofed main courtyard about 5 by 8 meters (about 16.5’ by 26’). Across the courtyard were walls rich with vibrant primary colors, with the promise of even finer paintings beyond, in the compound’s porticos and inner rooms. The visitor to Tepantitla’s Portico 2 would behold a world of meaning (see Figures 14 and 34). The painted frieze on the lower wall showed a paradise of cavorting figures, some sliding over a mountain made of sweet water, its base formed by streams of sweet water and rectangular farm plots. But this elaborate scene is just the foundation for a set of masked frontal figures sprouting branches while uniformed elites (probably in procession) faced them with offerings, all resting on a painted garland of Storm God busts holding Storm God masks. More murals decorate the next and farthest room in the suite. There the walls commemorated a procession: a dozen helmeted figures marching around the room, sowing seeds and offering jewels and poems and incense. The meaning of this procession in progress would resonate with the visitor, who would understand at least some of the messages presented in these figures and the rituals they were performing – and even to reflect on processions experienced and observed, along the Street of the Dead and other city avenues. The “house” of Tepantitla clearly had some rights to a procession extolling fertility, wealth, and water, and on their walls they declared themselves to be water-worshippers, carrying on one of Teotihuacan’s oldest ritual traditions. (The iconography of the Tepantitla murals is discussed most thoroughly in Browder 2005, Furst 1974, Pasztory 1976 and Uriarte 1995)

⁴⁰ This pattern also appeared in Tepantitla (Patio 9, Mural 3).

⁴¹ Netted jaguars have been found in six mural locales, either on the Street of the Dead (Palace of the Jaguars, near the Moon Pyramid; Compound of the Sun, at the northwest corner of the Sun Pyramid base; Great Compound, northeast corner) or in apartment compounds of midtown west (Atetelco, Zacuala Palace, and Tetitla).

⁴² At Zacuala, the temple platform looks Teo West to Portico 7, across the Principal Patio, and its murals feature frontal avian figures that Sejourné identified as the Solar Eagle (per Fuente 1995g: 339).

⁴³ A quick search for YouTube videos of the cathedral reveals several involving processions.

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Teotihuacan Murals, an Appendix

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An extended table of Teotihuacan murals forms most of this appendix. The table includes plans of Teotihuacan's ceremonial center and of compounds and room clusters where murals have been found. It includes many thumbnail images of the murals themselves, along with brief descriptions and major sources. These have been annotated to highlight the main themes studied in this volume: water, felines, and processions. Or, **water**, **felines**, and **processions**, to concatenate words, images, and plans with an instant visual translation device that is used throughout.

As was mentioned in the article related to this appendix, the corpus of murals and fragments recovered from Teotihuacan is miniscule compared to the number of murals extant in CE 500; as a sample, it is biased toward the concerns of the ruling elite, because elite contexts would be more richly decorated than those of the city's workers, and because of the vagaries of site destruction and recovery of murals in context. Interpretations of patterns in this limited sample must be carefully drawn, but there is still potential for understanding the prevalence of certain themes.

This table owes much of its structure to the efforts of Beatriz de la Fuente and her colleagues to systematize Teotihuacan mural information in a catalogue (Fuente [coord.] 1995a) and volume of interpretative essays (Fuente [coord.] 1995b). On the next page, the plan of the murals at the site follows this research team's "Plano general" (Fuente [coord.] 1995a: following p. xxx), and follows the catalogue's designation of mural locales, names, and numbering system.

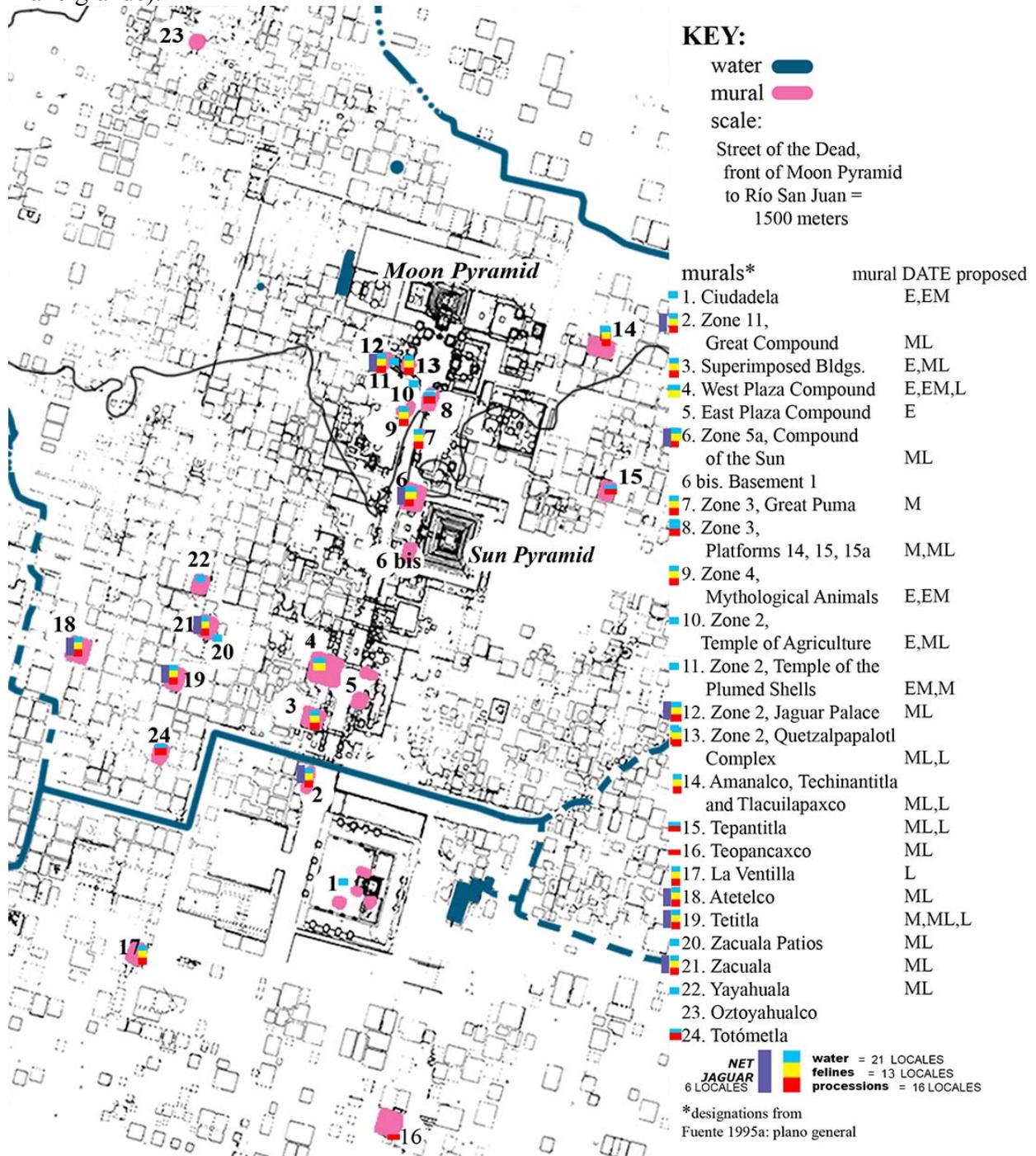
However, the order of mural locales here follows a different logic: it starts at the north end of the ceremonial center (north end of the Street of the Dead), it presents murals associated with civic-ceremonial complexes, moving south to the Ciudadela complex and Great Compound. It then turns to residential murals and presents them by district, starting in the northwest and moving south, then to the east side, upper to lower.

Note that each locale's murals do not represent a single phase, so the order of presentation does not represent a cultural evolutionary continuum. Furthermore, dating the murals is challenging, as reflected by the differences of opinion about the dates of certain murals by their evaluators. My quick estimate of timing derived from the other designations is cited to the left of the estimate, an E-M-L scheme that is not intended as a new alternative to those already in use, but simply a way for readers to rapidly absorb the information in the table.

This table evolved out of research notes developed in studying the Net Jaguar and Water Temple mural (Tetitla compound, Room 12, mural 8, now at Dumbarton Oaks; Evans 2010a and 2010c). The table is incomplete in many ways, in part because at present, time does not permit me to go much beyond the major sources on the topic, and also because of the table's emphasis on my key concerns: water, felines, and processions.¹

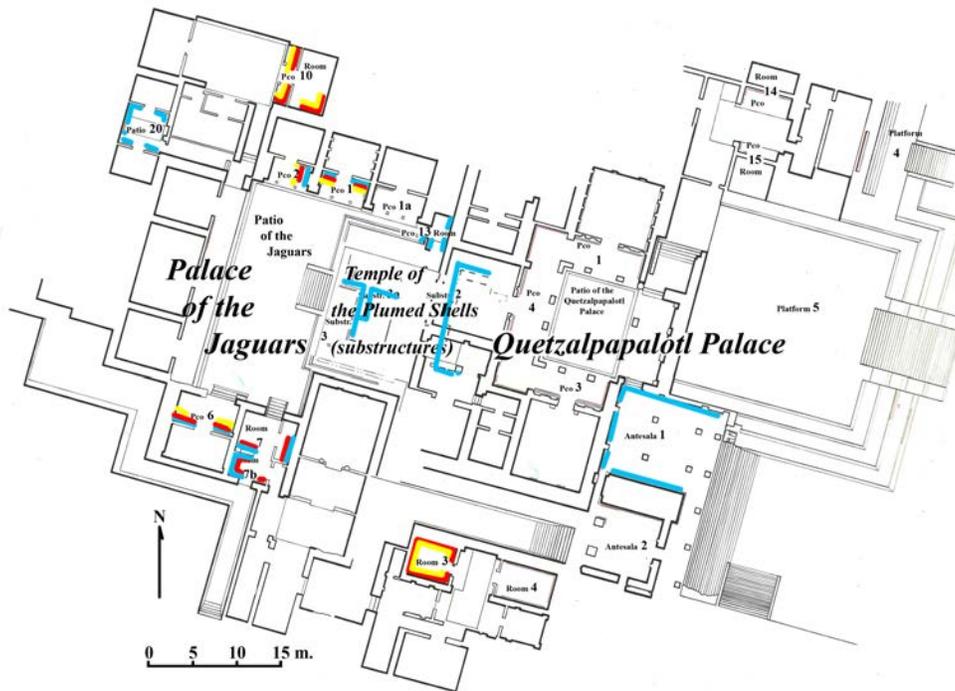
¹ I regret that space does not permit discussion of recent research into Teotihuacan's neighborhoods (e.g., Gómez-Chávez 2012; Manzanilla 2012; Robertson 2015; Storey et al. 2012; Widmer 2012).

Plan of Teotihuacan mural locales (plan based on Millon et al. 1973; Fuente [coord.] 1995a: Plano grande).



Street of the Dead north: Pyramid of the Moon (Cowgill 2015: 55-56; 83)
 Stage 1: Late Patlachique-Early Tzacualli construction, NOT Teo North, probably largest structure in Teotihuacan (Patlachique phase ceramics in fill)
 Stage 2: Tzacualli, **construction oriented Teo North**
 Stage 3 and 4: Tzacualli into early Miccaotli
 Stage 5: Miccaotli
 Stage 6: Early Tlamimilolpa
 Stage 7, 7a: possibly (early) Xolalpan

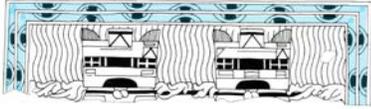
Street of the Dead north, Zone 2: from left, Palace of the Jaguars, Temple of the Plumed Shells (substructures) and Quetzalpapalotl Palace



(adapted from Miller 1973: 42, 49: Plan II and Plan III)

Teotihuacan Murals by Locale and Theme

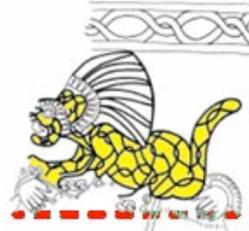
| | |
|--|---|
| Teotihuacan sector: set of buildings and complexes | |
| | building or complex |
| | room, murals (basic sources): motifs, themes, especially water, felines, procession |
| | Proposed date: phase or period (source), analogous phase or period |

| | |
|---|--|
| Street of the Dead north, Zone 2, continued | |
| E; EM; M | Temple of the Plumed Shells: substructures beneath the eastern part of the Palace of the Jaguars and the western part of the Quetzalpapalotl Palace – thus may predate some parts of the other compounds. Earliest stages of the Quetzalpapalotl Palace may date from CE 100-250 (Cowgill 2015: 91) |
| | EM Proposed date: Teo IIA (Early Tlamimilolpa [Millon 1992: 421]) |
| | Substructure 2, murals 1-4 (Fuente 1995k: 11.1: 109-10; Miller 1973: 59): profile birds, freshwater streams from beaks |
| | E; EM Proposed dates: Teo I-II ("Technical Phase I" [Magaloni 1995:205, 217], associated with Tzacualli-Miccaotli) or Teo II-IIIA ("2nd Stylistic Phase" [Lombardo 1995: 23-25], associated with Miccaotli-Early Tlamimilolpa) |
| | Substructure 3, murals 1-3 (Fuente 1995k: 11.2: 110, 113; Miller 1973: 60): solid red large disks, border of smaller pierced disks |
| | Substructure 3a, murals 1-3 (Fuente 1995k: 11.3: 113; Miller 1973: 61): buildings; border: symbols of freshwater canals |
| |  |
| | Substructure 3a, murals 1-3 (adapted from Fuente 1995k: 113, Fig. 11.3). |
| M | Proposed date: Teo IIA-III ("3rd Stylistic Phase" [Lombardo 1995: 28], associated with Tlamimilolpa) |

| | |
|---|---|
| Street of the Dead north, Zone 2, continued | |
| M L | Palace of the Jaguars (Conjunto de los Jaguares) |
| | Portico 2, mural 2 (Fuente 1995h: 12.1: 115-16, 119; Miller 1973: 51): felines in procession , blowing on conch trumpets dripping with freshwater eyes; border features aquatic symbols (see Portico 1 illustration) |
| | ML Proposed date for Portico 2, murals 1 and 2: Teo III-IIIA ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Portico 1, murals 1-2 (Fuente 1995h: 12.1: 115-16, 119; Miller 1973: 50); felines in procession , blowing on conch trumpets dripping with freshwater eyes; border includes Tlaloc symbols. |
| |  |
| | Palace of the Jaguars, Portico 1, mural 1 (adapted from Fuente 1995h: 115, Fig. 12.1). |
| | ML Proposed date for Portico 1 murals 1, 2, 4: Teo III-IIIA ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Portico 1a, mural 1 (Fuente 1995h: 12.2: 119-20; Miller 1973: 51): abstract: curved bands and architectonic designs |
| | ML Proposed date: Teo III-IIIA ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Portico 13, mural 1 and Room 13 murals 1 and 2 (Fuente 1995h: 12.7: 121; Miller 1973: 58): murals 2 and 3: amorphous design, possibly water streams |

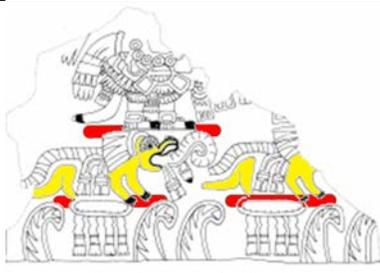
Teotihuacan Murals by Locale and Theme

| | |
|--|--|
| Teotihuacan sector: set of buildings and complexes | |
| | building or complex |
| | room, murals (basic sources): motifs, themes, especially water , felines , procession |
| | Proposed date: phase or period (source), analogous phase or period |

| Street of the Dead north, Zone 2, continued | |
|---|---|
| Palace of the Jaguars (Conjunto de los Jaguares), continued | |
| | <p>Portico 10, murals 1-3 (Fuente 1995h: 12.4: 120-21; Miller 1973: 55): netted jaguars atop human torsos; in procession? Similar design to the arms-holding-a-netted-jaguar of Tetitla, Room 11, murals 1 and 2.</p>  <p style="text-align: right; font-size: small;">Palace of the Jaguars, Portico 10, mural 2 (adapted from Fuente 1995h: 121, Fig. 12.6).</p> |
| ML | Proposed date for murals 1 and 2: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | <p>Room 10, murals 1-2 (Fuente 1995h: 12.4, 12.5: 121; Miller 1973: 55; Ruiz Gallut et al. 1995; Underhill 2014): netted jaguars atop human torsos; in procession?</p>  <p style="text-align: right; font-size: small;">Palace of the Jaguars, Room 10, mural 1 (adapted from Fuente 1995h: 121, Fig. 12.7).</p> |
| ML | Proposed date for mural 1: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Patio 20, murals 1-6 (Fuente 1995h: 12.6: 121, Miller 1973: 57): abstract: frontal face atop bundle of lines, geometrics, plumes, and drops |
| ML | Proposed date for mural 3: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Portico 6, murals 1-2 (Fuente 1995h: 115-16, 119; Miller 1973: 51): felines in procession , blowing on conch trumpets (probably dripping with freshwater eyes), like Portico 1 murals. |
| ML | Proposed date for mural 1: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Room 7, mural 1; Room 7a, mural 2 (Fuente 1995h: 12.3: 120): abstract: footprints (suggesting procession), other symbols include concentric disks |
| | Room 7b, murals 1-4 (Fuente 1995h: 12.3: 120; Miller 1973: 52): abstract: footprints (suggesting procession), other symbols include concentric disks |
| ML | Proposed date for mural 4: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |

Teotihuacan Murals by Locale and Theme

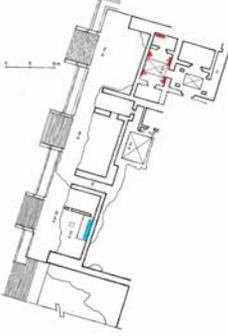
| | |
|--|--|
| Teotihuacan sector: set of buildings and complexes | |
| | building or complex |
| | room, murals (basic sources): motifs, themes, especially water , felines , procession |
| | Proposed date: phase or period (source), analogous phase or period |

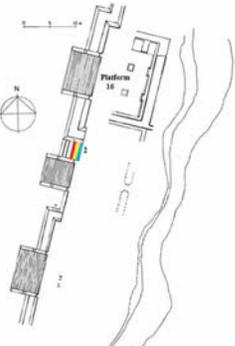
| Street of the Dead north, Zone 2, continued | |
|---|---|
| ML;L | Quetzalpapálotl Compound |
| | Quetzalpapalotl Palace |
| | Antesala 1, murals 1-5 (Fuente 1995i: 13.3: 124; Miller 1973: 44): abstracts: waves, fresh water eyes , volutes |
| | Antesala 2, murals 1-2 (Fuente 1995i: 13.4: 124): fragmentary |
| | Platform 4 and Platform 5 (Fuente 1995i: 13.1: 123; Miller 1973: 45): abstracts: conchs in relief |
| | Porticos 1, 3, 4: murals 1-14 (Fuente 1995i: 13.5: 125, 128; Miller 1973: 45): abstract: stepped grecas |
| | Rooms north of the Quetzalpapalotl Palace |
| | Portico 14, murals 1-3 and Portico 15, murals 1-2 (Fuente 1995i: 113.2: 23-124; Miller 1973: 47): abstracts: disks, plumes |
| L | Proposed date for Portico 14, mural 1: Teo IV ("5th Stylistic Phase" [Lombardo 1995: 60], associated with end of Xolalpan and Metepec) |
| | South Complex |
| | Room 3, murals 1-5 (Fuente 1995i: 13.6: 128; Miller 1973: 48-49; Lombardo 1995: 35): felines in procession , under profile standing canid, also in procession |
| |  |
| | Room 3, mural 2 (adapted from Fuente 1995i: 128, Fig. 13.4). |
| ML | Proposed date for Room 3, murals 1 and 2: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan); also Ortega Cabrera and Torres Rodríguez [2015: 34] note that most areas were in use in Xolalpan, CE 400-600) |
| | Room 4, murals 1-4 (Fuente 1995i: 13.7: 128): fragmentary |

| Street of the Dead north, Zone 2, continued | |
|---|--|
| | Temple of Agriculture |
| E; ML | copy of mural (Fuente 10: 1995j: 102-107; Miller 1973: 62-66): caracols and conchs ; mural of offerings |
| E; ML | Proposed dates: Teo I-II ("1st Stylistic Phase" [Lombardo 1995: 18-19]; "Technical Phase I" [Magaloni 1995:205]; both associated with Tzacualli-Miccaotli); and Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 35: citing Gamio 1922, lam. 33], associated with Xolalpan) |

Teotihuacan Murals by Locale and Theme

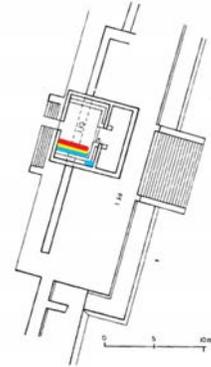
| | |
|--|--|
| Teotihuacan sector: set of buildings and complexes | |
| | building or complex |
| | room, murals (basic sources): motifs, themes, especially water , felines , procession |
| | Proposed date: phase or period (source), analogous phase or period |

| Street of the Dead north: Zone 3 | |
|----------------------------------|---|
| M; ML | East side, Street of the Dead |
| ML | Platform 14 and Room 1 (Fuente 1995l: 8.1: 87-88; Miller 1973: 66-67): priests in procession (Room 1, murals 1-5, 5 figures in procession) |
| |   <p>Zone 3, Platform 14 Room 1, Priests 1, 3, and 4 (adapted from Fuente 1995l: 88, fig. 8.2, 8.3, 8.4; "según dibujo de Abel Mendoza, 1962-1964")</p> <p>Zone 3, Platforms 14, 15, and 15 (aapted from Fuente 1995l: 86; Plan 8)</p> |
| ML | Proposed date for mural: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Platform 15, 15a, and Room 2 (Fuente 1995l: 8.2: 88-91; Miller 1973: 66-68): shield of Tlaloc |
| ML | Proposed date for Platform 15, Portico 2, mural 1: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |

| | |
|---|--|
| | Platform 16, mural 2 (Fuente 1995l: 7.1: 83, 85; Miller 1973: 69): "Gran Puma" is 2.1 m high, 4.3 m long, and features a large unadorned feline , possibly in procession, against a background of irrigation canals : bottom border: green chalchihuitl pierced disks |
| |   <p>Platform 16 plan (adapted from Fuente 1995l: 85, Plano 7.1)</p> <p>Platform 16 Mural 2 "Gran Puma" https://commons.wikimedia.org/wiki/File:Jaguar_Mural_Teotihuacan.jpg (image by Victor Hugo de Lafuente Flores; the Creative Commons Attribution 3.0 Unported; Attribution: Vhlafuente at English Wikipedia).</p> |
| M | Proposed date: Teo IIA-III ("3rd Stylistic Phase" [Lombardo 1995: 28], associated with Tlamimilolpa) |

Teotihuacan Murals by Locale and Theme

| | |
|--|--|
| Teotihuacan sector: set of buildings and complexes | |
| | building or complex |
| | room, murals (basic sources): motifs, themes, especially water , felines , procession |
| | Proposed date: phase or period (source), analogous phase or period |

| Street of the Dead north: Zone 4 | | |
|----------------------------------|---|---|
| E; EM | East side, Street of the Dead: Mythological Animals |  <p>Zone 4, Platform 1, Mythological Animals (adapted from Fuente 1995m 92: Plan 9)</p> |
| | | Platform 1, Room 1, mural 1 (Fuente 1995m: 9.1: 93-94, 98-99, 101; Miller 1973: 70-73): separated by wavy lines, some suggesting irrigation canals; jaguars face opposite directions, possibly in procession; from mouths, fresh water streams; feathered serpent and feline in profile, face to face |
| | EM | Proposed date: Teo II-IIA ("2 nd Stylistic Phase" [Lombardo 1995: 23-25], associated with Miccaotli & Early Tlamimilopa) |
| | | Platform 1, Room 1, mural 2 (Lombardo 1995: 28; Miller 1973: 73): vertical border remnant, behind Mural 1 and thus predating it; wavy lines, some suggesting irrigation canals; doves, sea stars |
| | EM | Proposed dates: Teo II-IIA ("early in the Teotihuacan mural-painting tradition" [Miller 1973: 73]; "2 nd Stylistic Phase" [Lombardo 1995: 23-25] associated with Miccaotli & Early Tlamimilopa) |
| | | Platform 2, Substructure 1 (Miller 1973: 74, Fig. 100): simple geometric designs |
| | E | Proposed date: Teo I-II ("Stylistic Phase I" [Lombardo 1995: 18-19], associated with Tzacualli-Miccaotli) |

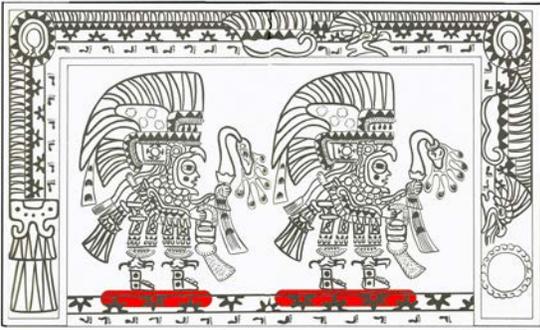
Teotihuacan Murals by Locale and Theme

| | | |
|--|---|--|
| Teotihuacan sector: set of buildings and complexes | | |
| | building or complex | |
| | room, murals (basic sources): motifs, themes, especially water, felines, procession | |
| | Proposed date: phase or period (source), analogous phase or period | |

| Street of the Dead midtown north: Zone 5a | |
|---|---|
| M L | <p>Compound of the Sun (Conjunto del Sol)</p>  <p>Zone 5A plan (adapted from Fuente 1995n: 58; Plano 6; Miller 1973: 75, Plan VI).</p> |
| | Platform 4, mural 1 (Miller 1973: 88): disk and surround of interlocking triangles |
| | Portico 3, mural 2 (Fuente 1995n: 6.7: 72; Miller 1973: 80): animal paws, aquatic motifs |
| | <p>Portico 3, mural 5 (Fuente 1995n: 6.6: 71-72; Miller 1973: 79): netted jaguar reclining, embracing stylized maguey whose streams have fresh water eyes</p>  <p>Portico 3, mural 5 (adapted from Fuente 1995n: 71, Fig. 6.6)</p> |
| M L | Proposed date for mural: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | <p>Portico 13, murals 1-2 (Fuente 1995n: 6.8: 72-74; Miller 1973: 80-81): netted jaguar crouching, holding stylized maguey whose streams have fresh water eyes</p>  <p>Zone 5a, Compound of the Sun, Portico 13, murals 1-2 (adapted from Miller 1973: 80-81, fig. 116)</p> |
| M L | Proposed date for murals: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |

Teotihuacan Murals by Locale and Theme

| Teotihuacan sector: set of buildings and complexes | |
|--|---|
| | building or complex |
| | room, murals (basic sources): motifs, themes, especially water, felines, procession |
| | Proposed date: phase or period (source), analogous phase or period |

| Street of the Dead midtown north: Zone 5a, continued | |
|---|---|
| | Portico 17, mural 1 (Fuente 1995n: 6.12: 77; Miller 1973: 86): abstract: bands and scrolls |
| ML | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Room 17: 1-3 (Fuente 1995n: 6.12: 77): abstract: bands y interlaces |
| ML | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Portico 18, murals 1-2 (Fuente 1995n: 6.9: 74-75; Miller 1973: 83): "faces" = mirrors with interlace centers, headdresses, precious symbols including aquatic |
| ML | Proposed date for mural 2: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Portico 19, murals 1-2 (Fuente 1995n: 6.11: 76; Miller 1973: 85; Sejourne 1966: 294-295): profile figures in procession, bird masks, bleeding hearts on curved knives, footprints on 3 sides of panel; "quality of line in this painting is one of the finest in all the known Teotihuacan mural paintings" (Miller 1973: 85) |
| |  |
| | <small>Zone 5a, Compound of the Sun, Portico 19, murals 1 and 2 (adapted from Séjourné 1966: 294-295, fig. 173, drawn by Manuel Romero)</small> |
| ML | Proposed date for mural 1: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Portico 22, mural 1 (Fuente 1995n: 6.13: 77-78; Miller 1973: 87): abstract: star, disks |
| | Portico 22, mural 2 (Miller 1973: 87): frontal face and torso |
| | Room 1, murals 1-2 (Fuente 1995n: 6.1: 59-60; Miller 1973: 75-77): abstract: serpent in a spiral band of grecas |
| | Room 5, mural 1 (Fuente 1995n: 6.2: 60, 68; Miller 1973: 77): seated feline with probably dead animal in its claws |
| | Room 12, mural 3 (Fuente 1995n: 6.3: 68-69; Miller 1973: 78): winged diving figure with aquatic symbols |
| ML | Proposed date for mural: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Room 12, mural 5 (Fuente 1995n: 6.4: 69-70; Miller 1973: 78-79): butterfly with Tlaloc attributes |
| ML | Proposed date for mural: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Room 13, murals 1, 3, 4-5 (Fuente 1995n: 6.5: 70-71; Miller 1973: 82): goggle-eyed butterfly, winged human diving figure, abstract: polylobed / stars |
| ML | Proposed date for mural 3: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |

Teotihuacan Murals by Locale and Theme

| | |
|--|---|
| Teotihuacan sector: set of buildings and complexes | |
| | building or complex |
| | room, murals (basic sources): motifs, themes, especially water, felines, procession |
| | Proposed date: phase or period (source), analogous phase or period |

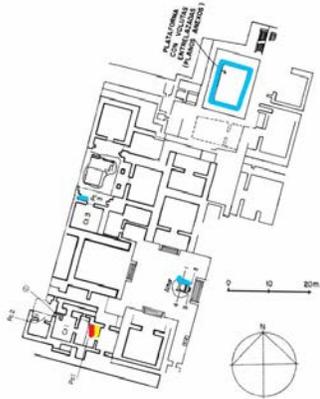
| Street of the Dead midtown north: Zone 5a, continued | |
|---|--|
| | Room 18, murals 1-4 (Fuente 1995n: 6.10: 75-76; Miller 1973: 84): background of diagonal "irrigated fields" motif and irrigation canals ; center: human hands from circular (Miller: scallop shell) motif |
| ML | Proposed date for mural 1: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Room 23, mural 2 (Fuente 1995n: 6.14: 78-79): human: frontal with enormous headdresses; border: netted jaguar ; floating symbols surround the figures |
| ML | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |

Street of the Dead midtown: Pyramid of the Sun (N. Sugiyama et al. 2013: 412-19)

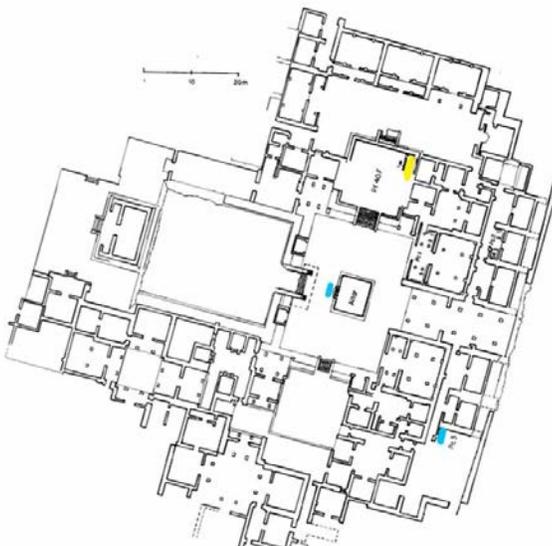
Phase 1: pre-Sun Pyramid: possibly a walled sacred space; Teotihuacan orientation;

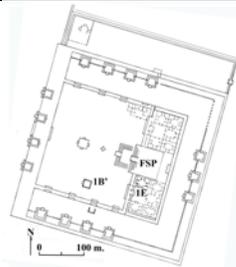
Phase 2: Sun Pyramid construction: one long construction phase with many offerings (Offering 2: "11 complete Tlaloc vessels" plus greenstone objects [ibid. 417]); burials; Teo I: Patlachique (150 BCE-CE 0)-Tzacualli (CE 0-150) ceramics

Phase 3: Adosada Platform Teo 1-2: Tzacualli-Miccaotli (AD 150-200) ceramics

| Street of the Dead midtown south: Street of the Dead Compound | |
|--|---|
| | <p>Compound of the Superimposed Structures (Conjunto de los Edificios Superpuestos)</p>  <p>Compound of Superimposed Structures (adapted from Cabrera 1995d: 26, Plano 3)</p> |
| | Interlace Scroll Platform, north façade, murals 1-2, south façade, murals 3-14 (Cabrera 1995d: 3.2: 28-31; Miller 1973: 89-90): abstract with surrounding border of green pierced disks |
| E | Proposed date: Teo I-II ("1st Stylistic Phase" [Lombardo 1995: 18-19]; "Technical Phase I" [Magaloni 1995:200]; both associated with Tzacualli-Miccaotli) |
| | Building 53, Substructure 3, murals 1-4 (Cabrera 1995d: 3.1: 27-28; Miller 1973: 89-90): abstract, interlaced volutes |
| E | Proposed date: Teo I-II ("1st Stylistic Phase" [Lombardo 1995: 18-19], associated with Tzacualli-Miccaotli) |
| | Portico 1, mural 1 (Cabrera 1995d: 3.3: 31-32): feline paws , possible procession |
| ML | Proposed date: Teo IIIa (Late Xolalpan [Cabrera 1995d: 31-32]) |
| | Room 1, mural 1 (Cabrera 1995d: 3.4: 32): abstract: winged designs in polychrome |
| | Portico 2, mural 1 (Cabrera 1995d: 3.5: 41): abstract: winged figures and temple architecture |
| | Portico 3, mural 1 (Cabrera 1995d: 3.6: 41, 43): abstract: red circle with rays |

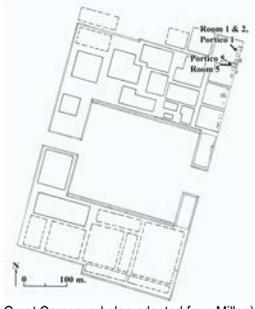
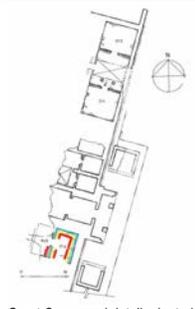
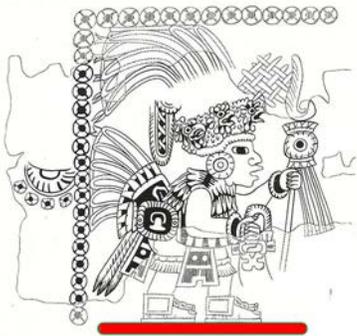
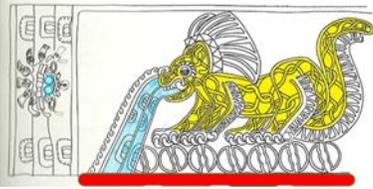
Teotihuacan Murals by Locale and Theme, see previous page

| Street of the Dead midtown south: Street of the Dead Compound (cont.) | |
|--|--|
| West Plaza Complex | |
|  | |
| West Plaza, Street of the Dead Compound (adapted from Cabrera 1995f: 44, Plano 4, and Morelos García 1993: plan E.4.1) | |
| | Base 40 F, mural 1 (Cabrera 1995f: 4.1: 45-46; Magaloni 1995: 200; 217; 205 ["Jaguars and serpents mural" from 1980-82 explorations]): feline, frontal-faced, downward (diving); serpent, very abstract |
| E; EM | Proposed dates: Teo I-II ("Technical Phase I" [Magaloni 1995:200], associated with Tzacualli-Miccaotli) or Teo II-IIA ("2nd Stylistic Phase" [Lombardo 1995: 23-25], associated with Miccaotli & Early Tlamimilopa) |
| | Portico 1 murals: 1-3 (Cabrera 1995f: 4.3: 46-47): abstract: volutes |
| E; L | Proposed date: Teo I-II ("1st Stylistic Phase" [Lombardo 1995: 18-19], associated with Tzacualli-Miccaotli; or Teo IV : the macanas ("5th Stylistic Phase" [Lombardo 1995: 60], associated with end of Xolalpan and Metepec) |
| | Portico 2, murals 1-4 (Cabrera 1995f: 4.4: 47-48): abstract: red shields |
| L | Proposed date: Teo IV ("5th Stylistic Phase" [Lombardo 1995: 60], associated with end of Xolalpan and Metepec) |
| | Portico 3, mural 1 (Cabrera 1995f: 4.5 :48, 51): abstract: weapons ("macanas o macuahuitles") zigzags separated by diagonal of 4 straight lines, similar to irrigated fields in other murals. |
| | Staircase of the central altar, mural 1 (Cabrera 1995f: 4.2: 46; Magaloni 1995: 200; 217): abstract: pierced disks, 8 each on risers of 5 steps |
| E | Proposed date: Teo I-II ("Technical Phase I" [Magaloni 1995:200], associated with Tzacualli-Miccaotli) |
| East Plaza Complex | |
| | Structure 1G, north façade, murals 1-2 (Cabrera 1995e: 5.1: 53): abstract: geometrics in chessboard style |
| E | Proposed date: Teo I-II ("1st Stylistic Phase" [Lombardo 1995: 18-19], associated with Tzacualli-Miccaotli) |
| | Substructure of Group 17, mural 3 (Cabrera 1995e: 5.2: 53, 56): abstract: chessboard design and volutes |
| E | Proposed date Teo I-II ("1st Stylistic Phase" [Lombardo 1995: 18-19], associated with Tzacualli-Miccaotli) |

| Street of the Dead south: Ciudadela compound (Millon 1992: 420–421) | | |
|--|---|--|
| North and South Palaces, and South Palace (Building 1E): Teo II-III transition: Tlamimilolpa Early beneath & in construction of rooms | |  |
| Ciudadela compound (adapted from Cabrera 1995c: 2 [drawing by G.A. Ramirez]). | | |
| South palace | | |
| EM | Proposed date: Teo IIA (Early Tlamimilolpa: beneath and in construction of south palace, north room [Millon 1992: 420]), | |
| | Building 1E (northwest section of palace), portico 1, mural 1 (Cabrera 1995c: 1.1: 2): volute | |
| Feathered Serpent Pyramid | | |
| | western staircase, exterior walls, north, mural 1, and south, mural 2 (Cabrera 1995c: 1.4: 6-8, 15): geometric designs | |
| | moldings of the tableros, murals 3-10 (Cabrera 1995c: 1.4: 6-8, 15): pierced disks | |
| Building 1B' (altar) | | |
| E; EM | Proposed dates: Teo I-II ("1 st Stylistic Phase" [Lombardo 1995: 18-19]; "Technical Phase I" [Magaloni 1995: 200, 205; 217]; both associated with Tzacualli-Miccaotli); or Teo IIA ("Early Tlamimilolpa" [Millon 1992: 421]) | |
| | Substructure 2, murals 2-7 (Cabrera 1995c: 1.3: 5): geometric designs | |
| | Substructure 4, floor 3, mural 1 (Cabrera 1995c: 1.2: 3, 5): geometric designs, Tajín style | |

Teotihuacan Murals by Locale and Theme

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|--|--|--|
| Teotihuacan sector: set of buildings and complexes | | |
| | building or complex | |
| | room, murals (basic sources): motifs, themes, especially water , felines , procession | |
| | Proposed date: phase or period (source), analogous phase or period | |

| | | | |
|--|---|--|---|
| Street of the Dead south: Great Compound (Gran Conjunto): | |  |  |
| Zone 11 (northwest corner, along the Street of the Dead) | | | |
| | Room 1, murals 1 – 2; Portico 1, mural 1; Room 2, murals 1 - 2 (Cabrera 1995i: 2.1: 19-20; Miller 1973: 91-92): priests in procession |  | |
| | ML | Proposed date for mural: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) | |
| | Portico 5, mural 1 and Room 5, murals 1-7 (Cabrera 1995h: 2.2: 19-25; Miller 1973: 91-92): netted jaguars in procession, on sectioned circles (probably cacao); from mouths: streams with freshwater eyes; border: Tlaloc masks; Room 5 is inside the building, not directly accessible from the Street of the Dead |  | |
| | ML | Proposed date for mural: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) | |

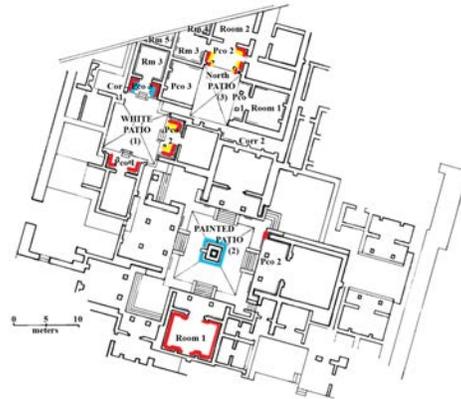
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|--------------------------------------|--|
| Upper west side: Oztoyahualco | |
| | Casa de las Aguilas (Fuente 1995b: 23.1: 345): profile bird with eagle claws and volute bottom and side border |
| | Oztoyahualco Compound Rm C41, principal patio: red bands (Manzanilla 1993: 558) |

Teotihuacan Murals by Locale and Theme

| | |
|--|---|
| Teotihuacan sector: set of buildings and complexes | |
| | building or complex |
| | room, murals (basic sources): motifs, themes, especially water, felines, procession |
| | Proposed date: phase or period (source), analogous phase or period |

Midtown west: Atetelco

NOTE: extended discussion of Atetelco dating, Cabrera 1995g.

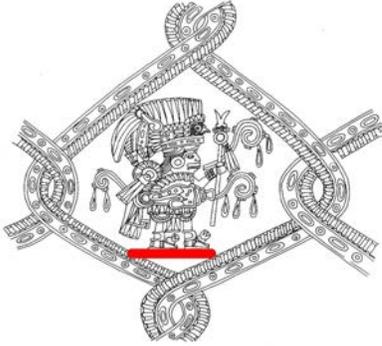


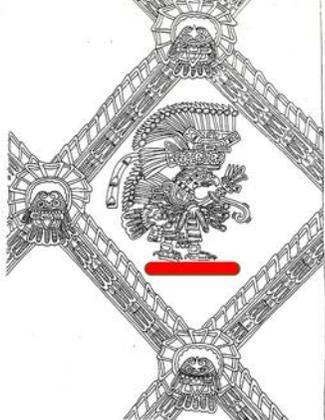
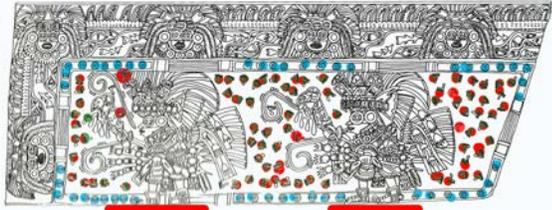
Atetelco plan adapted from Cabrera 1995b: 202, Plano 18; color key in footer.

| | |
|---|---|
| Painted Patio (Red Patio; Patio Pintado; Patio 2) | |
| | Base moldings, murals 1-6 (Cabrera 1995b: 18.10: 216, 234): feathered serpents with knives, arrows |
| | Central altar, murals 1-5 (Cabrera 1995b: 18.13: 237-38; Miller 1973: 164-165): plumed, netted serpents spewing fresh water; 2 taluds and cornice = platform; middle talud has interlaces |
| | Portico 2, mural 1 (Cabrera 1995b: 18.11: 233-234; Miller 1973: 167): over pilaster: feathered serpents with knives, sectioned hearts, footprints |
| | Room 1, murals 1-6 (Cabrera 1995b: 18.12: 234-37; Miller 1973: 166): human: busts atop or behind plumed caracols that emit scrolls filled with seeds, possibly in procession |
| North Patio (Patio Norte; Patio 3) | |
| | Principal patio, mural 2 (Miller 1973: 166): chevrons |
| ML | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Corridor 1, murals 1 and 2 (Cabrera 1995b: 18.14: 238-240): abstract |
| | Portico 1, murals 2 and 3 (Cabrera 1995b: 18.16: 240, 248): birds on pedestals |
| | Portico 1, murals 1 and 4 (Cabrera 1995b: 18.17: 249-250): coyotes on pedestals |
| | Portico 2, murals 1-6: (Cabrera 1995b: 18.18: 250-255): warriors in procession, costumed as coyotes and netted jaguars |
| | Portico 3: 1-3 (Cabrera 1995b: 18.19: 255): abstract? hands and volutes with stars |
| | Room 1, murals 1-4 (Cabrera 1995b: 18.15: 240, 248): segmented circles, red |
| | Room 3: 1-5 (Cabrera 1995b: 18.20: 255-56): abstract? red circles with coyote tails |
| | Room 4: 1-2 (Cabrera 1995b: 18.21: 256): human: person seated in front of a vessel |

Teotihuacan Murals by Locale and Theme

| | |
|--|---|
| Teotihuacan sector: set of buildings and complexes | |
| | building or complex |
| | room, murals (basic sources): motifs, themes, especially water, felines, procession |
| | Proposed date: phase or period (source), analogous phase or period |
| | Proposed date: phase or period (source), analogous phase or period |

| Atetelco, p. 2/3 | |
|-------------------------|--|
| | White Patio (Patio Blanco; Patio 1) |
| | Corridor 1, murals 2.1 and 2.2 (Cabrera 1995b: 18.8, 18.9: 214-15): human figures with deformed feet |
| | <p>Portico 1, for Templo Sur, murals 5-7 (walls/tablero) (Cabrera 1995b: 18.2: 205-07): figures dressed as canids in procession (volute are emitting from each foot, from outer edge of panache, and from back device per ibid. 206, fig. 18.2); diagonal bands separate figures into cartouches; possibly, as elsewhere in Atetelco, the diagonal patterns reference nets</p>  <p>Atetelco White Patio Ptco 1, murals 5-7 https://commons.wikimedia.org/wiki/File:Teotihuac%C3%A1n_-_Palacio_de_Atetelco_Wandmalerei_3.jpg</p> |
| ML | Proposed date for murals: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan; Cabrera [1995b: 18.8: 203], reviews various dates, including CE 215-350, mostly asso. with Xolalpan) |
| | <p>Portico 1, murals 1-4, talud (Cabrera 1995b: 18.1: 203-05; Miller 1973:160): coyote procession</p>  <p>Atetelco White Patio Ptco 1, murals 1-4 (adapted from Cabrera 1995b: 18.1: 203, fig. 18.1)</p> |
| ML | Proposed date for murals: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | <p>Portico 2, murals 5-7: (walls/tablero): anthropomorphic figures in procession with shell pectorals (Cabrera 1995b: 18.4: 208-209; Lombardo 1995: 35); diagonal interlaced bands separate figures into cartouches; possibly, as elsewhere in Atetelco, the diagonal patterns reference nets</p>  <p>Atetelco, White Patio, Portico 2, murals 5-7 (adapted from Cabrera 1995b: 208, fig. 18.5)</p> |
| ML | Proposed date for murals: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | <p>Portico 2, murals 1-4 (talud) (Cabrera 1995b: 18.3: 207-08; Miller 1973:161): procession of coyotes and netted jaguars, dripping trilobes below mouths; above, band of netted jaguar legs with paws</p>  <p>Atetelco, White Patio, Portico 2, murals 1-4 (adapted from Cabrera 1995b: 207, fig. 18.4)</p> |
| ML | Proposed date for murals: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |

| Atetelco, p. 3/3 | |
|--|--|
| White Patio (Patio Blanco; Patio 1), continued | |
| Portico 3, murals 5-7 (walls) (Cabrera 1995b: 18.6: 212-13): human/animal figures, procession ; diagonal bands separate figures into cartouches; possibly, as elsewhere in Atetelco, the diagonal patterns reference nets |  <p>Atetelco, White Patio, Portico 3, murals 5-7 (adapted from Cabrera 1995b: 212, fig. 18.8)</p> |
| ML | Proposed date for murals: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| Portico 3, murals 1-4 (talud) (Cabrera 1995b: 18.5: 210-12; Miller 1973:162): dancers with footprints; procession / dance within a chalchihuitl -lined enclosure; talud under net design walls; dancers carry impaled dripping hearts in one hand, shield and darts in other |  <p>Atetelco, White Patio, Portico 3, murals 1-4 (adapted from Cabrera 1995b: 211, fig. 18.7)</p> |
| ML | Proposed date for murals: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| Room 3, murals 1-5 (Cabrera 1995b: 18.7: 214): abstract: grecas and volutes | |
| ML | Proposed date for murals: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |

Teotihuacan Murals by Locale and Theme

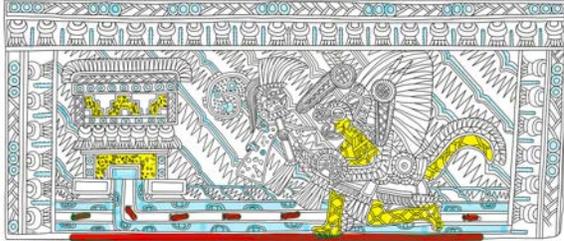
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|--|--|
| Teotihuacan sector: set of buildings and complexes | |
| building or complex | |
| room, murals (basic sources): motifs, themes, especially water , felines , procession | |
| Proposed date: phase or period (source), analogous phase or period | |

Midtown west: Tetitla



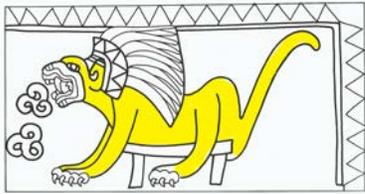
Tetitla Compound (drawing by S.T. Evans after Miller 1973)

| | |
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| | Patio 13 group, main (entry) patio (southeast corner of building), with largest central altar (steps on the TeoWest side), surrounded by four complexes of portico-and-room(s), and several more suites accessible from Patio 13. |
| | Portico 14 and Room 14: vestibule of the main patio, only access to Patio 13 from main entry; with two rooms, it is the least elaborate of Patio 13's four room groups |
| | Portico 14, murals 1-3 (Fuente 1995d: 19.27: 293; Miller 1973: 142): abstract: architectonic design? bundle? |
| M | Proposed date for mural 1: Teo IIA-III ("3 rd Stylistic Phase" [Lombardo 1995: 28], associated with Tlamimilolpa) |
| | Room 14, murals 1-2 (Fuente 1995d: 19.28: 293; Miller 1973: 143): abstract: hands with drops flank Tlaloc fangs |

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|---|---|
| Tetitla, p. 2/6, entry patio (13) group, p. 2/3. | |
| | Portico 11 and Suite 12 group: most elaborate of Patio 13's four room groups (min. 9 rooms), at the Teo West corner of Patio 13; public rooms have "green Tlaloc" murals; the surrounding suite of rooms features Net Jaguar and Water Temple murals and all rooms are connected, facilitating procession |
| | Portico 11, murals 1-3 (Fuente 1995d: 19.32: 294-96, 304-05; Miller 1973: 146-50): "green Tlaloc " or "goddesses of jade" |
| ML | Proposed date: Teo III-IIIa (4th Stylistic Phase" [Lombardo 1995: 34-35]; "Technical Phase III" [Magaloni 1995:219]; both associated with Xolalpan) |
| | Portico 11, mural 4 (Fuente 1995d: 19.32: 305): bird with three drops |
| ML | Proposed date: Teo III-IIIa (4th Stylistic Phase" [Lombardo 1995: 34-35]; "Technical Phase III" [Magaloni 1995:219]; both associated with Xolalpan) |
| | Room 11, murals 1 and 2 (Fuente 1995d: 19.38: 310-11): abstract: similar design to the arms-holding-a- netted-jaguar of Palace of the Jaguars, Portico 10, murals 1-3 and Room 10, murals 1-2 |
| ML | Proposed date for mural 1: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Suite 12: Net Jaguar and Water Temple murals Room 12, murals 1-8; Corridor 12, murals 1-8, and Corridor 12a, murals 1-6 (Fuente 1995d: 19.33: 305): 22 examples of a netted jaguar in front of a water temple ; procession |
| | Room 12, murals 1-8; Corridor 12, murals 1-8 (Evans 2010a; Fuente 1995d: 19.34: 305-308; Miller 1973: 151-152): netted jaguar kneeling in front of a water temple ; procession |
| |  |
| | Tetitla, Room 12, Mural 8 (drawing by S.T. Evans) |
| ML or L | Proposed date: Teo III-IIIa (mural 7: "4th Stylistic Phase" [Lombardo 1995: 34-35]; "Technical Phase III" [Magaloni 1995:219]; both associated with Xolalpan); or Teo IV : "middle Metepec" [Millon 1992: 348]) |
| | Room 12a, murals 1-5 (Fuente 1995d: 19.37: 310; 301, lám. 74; Miller 1973: 156): red disks ca. 0.5 m diameter against dark red; sun symbols in the room that the Room 12 jaguar procession would move toward, the Teo West wall. |
| | Corridor 12, murals 1-8 (Fuente 1995d: 19.35: 308-309; Miller 1973: 153): netted jaguar kneeling in front of a water temple ; procession |
| | Corridor 12a, murals 1-6 (Fuente 1995d: 19.36: 309-10; Miller 1973: 154-155): netted jaguar kneeling before a water temple ; procession |
| ML | Proposed date for mural 8: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |

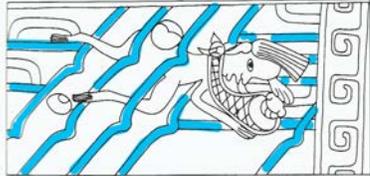
Teotihuacan Murals by Locale and Theme

| | |
|--|--|
| Teotihuacan sector: set of buildings and complexes | |
| | building or complex |
| | room, murals (basic sources): motifs, themes, especially water , felines , procession |
| | Proposed date: phase or period (source), analogous phase or period |

| | |
|---|---|
| Tetitla, p. 3/6, entry patio (13) group, p. 3/3. | |
| | Portico 13: least accessible room group from the entry, and like Portico 14, only two rooms |
| | Portico 13 (Portico Oeste), tablero/wall murals (Séjourné 1966: 56-57, fig. 15): tablero: human figures in procession ; talud: orange felines |
| |  <p style="text-align: right; font-size: small;">Tetitla Portico 13, reconstruction from Séjourné 1966: 56-57, fig. 15 (public domain)</p> |
| | <p>Portico 13, talud murals 1-4 (Fuente 1995d: 19.25: 292; Miller 1973: 141): 6 orange felines, midsections rest on stools</p>  <p style="text-align: right; font-size: small;">Tetitla Portico 13, mural 3 (adapted from Fuente 1995d: 292, fig. 19.30)</p> |
| M | Proposed date for murals 2, 3, and 4 and orange felines: Teo IIA-III ("3 rd Stylistic Phase" [Lombardo 1995: 28], associated with Tlamimilolpa) |
| | Portico 9 and Patio 8: a group of 8 rooms, including the only access from the Patio 13 group to other parts of the building |
| | Portico 9, mural 1 (Fuente 1995d: 19.26: 292-93; Miller 1973: 141): figure with geometric and architectonic designs |
| | Patio 8, murals 1-4 (Fuente 1995d: 19.21: 289-90): abstract: temple surmounted by mouth surrounded by flames |
| | Suite 15, 16, 17: a private set of five rooms around interior Patio 15, accessible only from Patio 13 |
| | Room 17, murals 1-4 (Fuente 1995d: 19.29: 293; Miller 1973: 144): shellfish/animal swimming in canal between fields |
| ML | Proposed date for mural 4: Teo III-IIIa ("4 th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Corridor 15, mural 1 (Fuente 1995d: 19.31: 294; Miller 1973: 145): border with bird, jade earspool, bivalve shell |
| | Room 16, murals 1-4 (Fuente 1995d: 19.30: 293-94; Miller 1973: 145): "flaming bundle" against mountain of irrigated fields |
| ML | Proposed date for murals 3 and 4: Teo III-IIIa ("4 th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |

Teotihuacan Murals by Locale and Theme

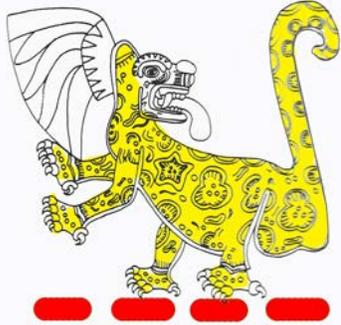
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| Teotihuacan sector: set of buildings and complexes | |
| | building or complex |
| | room, murals (basic sources): motifs, themes, especially water , felines , procession |
| | Proposed date: phase or period (source), analogous phase or period |

| | |
|----|---|
| | Tetitla, p. 4/6 |
| | Suite 25, 26, 27: suite of seven connected rooms, surrounding but not directly accessible from Patio 13; shared corridor with Patio 5 and Room 7. |
| | <p>Portico 26, murals 1-4 (Fuente 1995d: 19.20: 287-89; Miller 1973: 136): shellfishers (divers) against background of waves</p>  <p style="text-align: right; font-size: small;">Tetitla Portico 26, mural 4 (adapted from Fuente 1995d: 288, fig. 19.24)</p> |
| M | Proposed date, Portico 26, murals 3 & 4 (divers): Teo IIA-III ("3 rd Stylistic Phase" [Lombardo 1995: 28], associated with Tlamimilolpa) |
| ML | Proposed date: Teo III ("Technical Phase III" [Magaloni 1995:219], associated with Xolalpan) |
| | Room 27, murals 1-2 (Fuente 1995d: 19.22: 290; Miller 1973: 137): seated figure, Maya style, with bird seen from the top |
| | Corridor 25, mural 7 (Lombardo 1995: 28), |
| M | Proposed date: Teo IIA-III ("3 rd Stylistic Phase" [Lombardo 1995: 28], associated with Tlamimilolpa) |
| | Patio 25, mural 2 (Lombardo 1995: 28), |
| M | Proposed date for Patio 25, mural 2: Teo IIA-III ("3 rd Stylistic Phase" [Lombardo 1995: 28], associated with Tlamimilolpa) |
| | Portico 25, murals 3-6; Patio 25, mural 2; Corridor 25, mural 7 (Fuente 1995d: 19.23: 290-291; Miller 1973: 138-139): frontal owls or eagles |
| M | Proposed date, Portico 25, murals 5 & 6: Teo IIA-III ("3 rd Stylistic Phase" [Lombardo 1995: 28], associated with Tlamimilolpa) |
| | Portico 25a, murals 1, 8-10 (Fuente 1995d: 19.24: 291-292; Miller 1973: 139) canid: profile, seated |
| M | Proposed date, Portico 25a, mural 1 (canid): Teo IIA-III ("3 rd Stylistic Phase" [Lombardo 1995: 28], associated with Tlamimilolpa) |

| | |
|---|---|
| | Patio 5 group (center of building): adjacent to but not directly accessible from Patio 18 group |
| | Patio 5, murals 1-2; Portico 5: 3-6 (Fuente 1995d: 19.18: 286-87; Miller 1973: 132-133): conch shells in front of Tlaloc |
| | Room 7, murals 1-5 (Fuente 1995d: 19.19: 287-89; Miller 1973: 134-135): seated frontal figure faced by profile figures emerging from bivalve shells ; "the old ones" |
| M | Proposed date for murals 3, 4, and 5: Teo IIA-III ("3 rd Stylistic Phase" [Lombardo 1995: 28], associated with Tlamimilolpa) |
| | Portico 4, mural 1 (Fuente 1995d: 19.17: 286): architectonic representation, temple with one tier of talud and tablero |

Teotihuacan Murals by Locale and Theme

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|--|--|
| Teotihuacan sector: set of buildings and complexes | |
| | building or complex |
| | room, murals (basic sources): motifs, themes, especially water , felines , procession |
| | Proposed date: phase or period (source), analogous phase or period |

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| | Tetitla, p. 5/6 | |
| | Patio 18 group (center-southwest): a miniature and simplified version of Patio 13: suites of rooms around a central patio with main access at the southwest, where Patio 18 group connects with all other parts of the building via a patio in the center of the building | |
| | | Room 18, murals 1-3 (Fuente 1995d: 19.12: 284; Miller 1973: 129): teeth below scrolls, shells with drops |
| | M | Proposed date: Teo IIA-III ("3 rd Stylistic Phase" [Lombardo 1995: 28]; "Technical Phase II" [Magaloni 1995:200, 217]; both associated with Early-Middle Tlamimilolpa) |
| | | Room 18a, murals 1-2, 4a (Fuente 1995d: 19.13: 284; Miller 1973: 129): teeth below scrolls, shells with drops |
| | M | Proposed date for 18a mural 4: Teo IIA-III ("3 rd Stylistic Phase" [Lombardo 1995: 28], associated with Tlamimilolpa) |
| | | Portico 20, murals 1-3; Portico 20a: 4-7 (Fuente 1995d: 19.16: 286; Miller 1973: 131): profile jaguars with swollen hindquarters ("jaguar con vientre abultado"), heads turned to rear; raised front paws; procession? |
| | |  <p style="text-align: right; font-size: small;">Tetitla Portico 20, murals 1-3; Portico 20a: 4-7 (adapted from Fuente 1995d: 19.16: 285, fig. 19.16)</p> |
| | M | Proposed date for Portico 20a mural 7: Teo IIA-III ("3 rd Stylistic Phase" [Lombardo 1995: 28], associated with Tlamimilolpa) |
| | | Portico 19, mural 1 (Fuente 1995d: 19.14: 284-85; Miller 1973: 130): avian: fragment, bird beak with 3 drops |
| | | Room 19, murals 1-5 (Fuente 1995d: 19.15: 285-86; Miller 1973: 130): frontal figure, white Tlaloc |
| | M | Proposed date for Room 19 mural 1: Teo IIA-III ("3 rd Stylistic Phase" [Lombardo 1995: 28], associated with Tlamimilolpa) |

Teotihuacan Murals by Locale and Theme

| | | |
|--|--|--|
| Teotihuacan sector: set of buildings and complexes | | |
| | building or complex | |
| | room, murals (basic sources): motifs, themes, especially water , felines , procession | |
| | Proposed date: phase or period (source), analogous phase or period | |

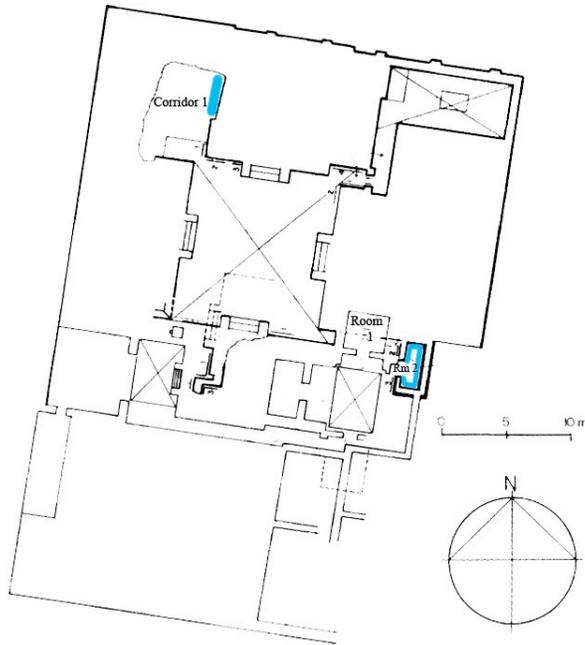
| | |
|----|---|
| | Tetitla, p. 6/6 |
| | Patio 22 group (south): isolated suite of about nine small rooms around an interior patio |
| | Corridor 21, murals 1-4 (Fuente 1995d: 19.8: 281-82; Miller 1973: 126): Tlaloc with atlatl dart; freshwater eyes in border |
| ML | Proposed date for mural 1: Teo III-IIIa ("4 th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Room 22, murals 1-2 (Fuente 1995d: 19.9: 282-83; Miller 1973: 127): birds over conch shells |
| M | Proposed dates for Room 22, mural 1: Teo IIA-III ("3 rd Stylistic Phase" [Lombardo 1995: 28]; "Technical Phase II" [Magaloni 1995: 200, 217]; both associated with Early-Middle Tlamimilolpa) |
| | Portico 23, mural 1 (Fuente 1995d: 19.10: 283): abstract: fragment, plumes |
| | Portico 24, mural 1 (Fuente 1995d: 19.11: 283-84; Miller 1973: 128): stars/ shells on wall; floor: 6 profile animals (Pleiades) |

| | |
|----------|---|
| | Patio 1 group (southwest): Tetitla's second formal entry accessed Patio 1, a 3-portico group with a small central altar and a few surrounding rooms |
| | Portico 2, mural 1 (Fuente 1995d: 19.6: 264, 281; Miller 1973: 124): scrolls around a flower; mountain of irrigated fields |
| | Portico 3, murals 1-2 (Fuente 1995d: 19.7: 281; Miller 1973: 125): abstract: poss. butterfly fragment; Tlaloc fang motif |
| | Portico 1, mural 1 (Fuente 1995d: 19.1: 259; Miller 1973: 160): abstract: geometric with hands and flows (seeds?) |
| M; ML | Proposed dates: Teo IIA-III ("3 rd Stylistic Phase" [Lombardo 1995: 28], associated with Tlamimilolpa); or Teo III ("Technical Phase III" [Magaloni 1995:219], associated with Xolalpan) |
| | Portico 1, mural 2 (Fuente 1995d: 19.2: 259-260; Miller 1973: 161): human: señora de nopal |
| M; ML | Proposed dates: Teo IIA-III ("3 rd Stylistic Phase" [Lombardo 1995: 28], associated with Tlamimilolpa); or Teo III ("Technical Phase III" [Magaloni 1995:219], associated with Xolalpan) |
| | Portico 1, mural 3 (Fuente 1995d: 19.3: 261, 264; Miller 1973: 122-123): seed-casting priest; procession |
| |  |
| | Tetitla Portico 1, mural 3 (adapted from Fuente 1995d: 261, fig. 19.3) |
| M; ML | Proposed dates: Teo IIA-III ("3 rd Stylistic Phase" [Lombardo 1995: 28], associated with Tlamimilolpa); or Teo III ("Technical Phase III" [Magaloni 1995:219], associated with Xolalpan) |
| | Room 1, mural 4 (Fuente 1995d: 19.4: 264; Miller 1973: 123): fragment, greca design, band with seeds |
| | Corridor 1, fragment (Fuente 1995d: 19.5: 264; Miller 1973: 123): red background, with dark red and dark blue vertical borders |

Teotihuacan Murals by Locale and Theme

| | |
|--|--|
| | Teotihuacan sector: set of buildings and complexes |
| | building or complex |
| | room, murals (basic sources): motifs, themes, especially water , felines , procession |
| | Proposed date: phase or period (source), analogous phase or period |

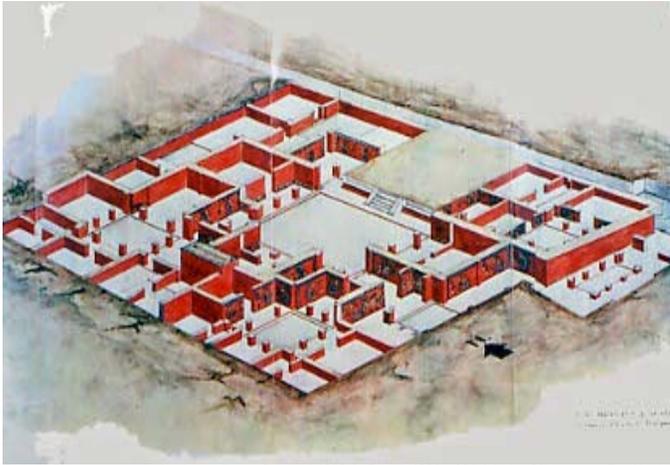
Midtown west: Zacuala Patios



Zacuala Patios plan (adapted from Fuente 1995c: 312, Plano 20)

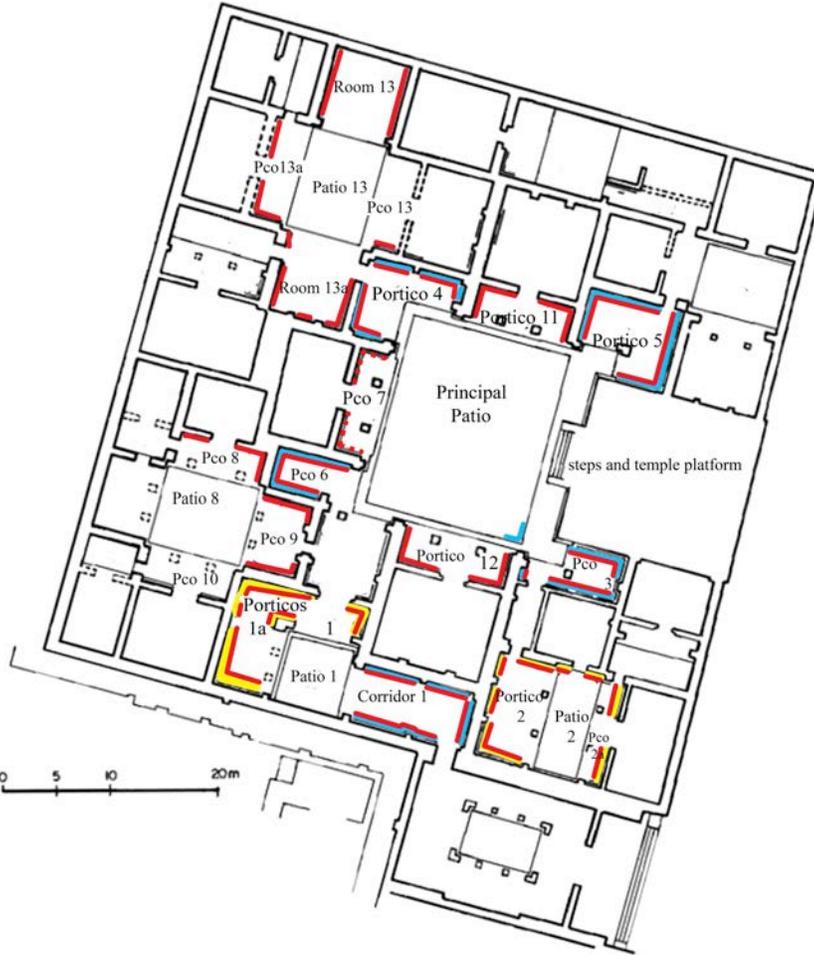
| | |
|----|---|
| | Patio 1 group |
| | Corridor 1, mural 1 (Fuente 1995c: 20.1: 313; Miller 1973: 115): abstract: polylobed design, possibly a mountain, with fresh water eye drop in its interior and also in the vertical border |
| ML | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Platform 1, murals 2 and 3 (Fuente 1995c: 20.2: 313-14; Miller 1973: 116): abstract: circle with quincunx, bands of coyote skin, curved knife with heart |
| ML | Proposed date for mural 3: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Corridor 2, mural 4 (Fuente 1995c: 20.3: 314; Miller 1973: 116-117): abstract: polylobed arch, possibly a mountain with 5 point star in center |
| ML | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Platform 2, murals 1 and 2 (Fuente 1995c: 20.4: 314; Miller 1973: 116-117): abstract: geometric design includes forked serpent's tongue |
| | Platform 3, mural 1 (Fuente 1995c: 20.5: 314, 319; Miller 1973: 116-117): abstract: design of point and bar and eyes marked by circular band and wavy panache |
| | Rooms 1 and 2, murals 4-7 (Fuente 1995c: 20.6: 319; Miller 1973: 118): abstract: polylobed design with fresh water eye drops in interior |
| ML | Proposed date for Room 2, mural 5: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Platform 5, murals 1-3 (Fuente 1995c: 20.7: 319; Miller 1973: 118): abstract: "radiant mouth" and border of volutes |
| ML | Proposed date for mural 1: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |

Midtown west: Zacuala Palace

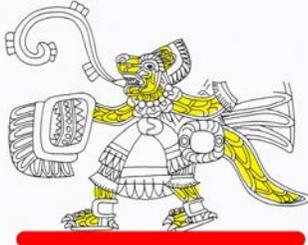
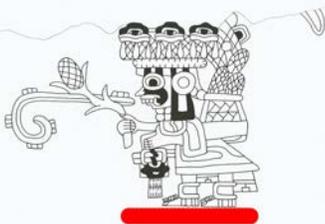


Zacuala Palace reconstruction (according to Sejourné 1959, in Fuente 1995g: 335, Lámina 26); arrow to Teo North.

Above, plan with access lines (green) based on Robb 2007b.



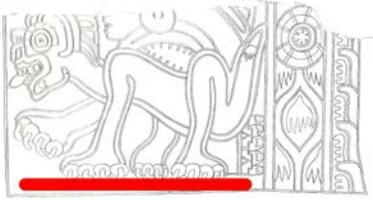
Zacuala Palace plan (adapted from Fuente 1995g: 320, Plano 21)

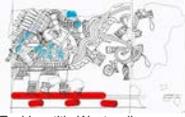
| | | |
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| Zacuala Palace, p. 2/3 | | |
| Entry to the building, and most direct access to the Principal patio: Patio 1 group and Patio 8 group (southwest part of building), and Portico 6 | | |
| | Corridor 1, murals 1-4; Portico 1a: mural 6; Porticos 8 and 9: murals 1-8 (Fuente 1995g: 21.2: 323-24; Miller 1973: 110-111): profile Tlaloc bust spreading seeds in procession | |
| ML | Proposed date for murals 1 and 2: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) | |
| | Porticos 1 and 1a, murals 1-9 (Fuente 1995g: 21.1: 321, 323; Miller 1973: 109): standing profile processional "caballero tigre" (not netted; scales or feathers) |  |
| | Zacuala Palace, Porticos 1 and 1a, murals 1-9 (adapted from Fuente 1995g: 321, fig. 21.1) | |
| ML | Proposed date for Portico 1, mural 1: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) | |
| | Portico 6 (southwest), murals 1-3 and other corners of the Principal patio: Portico 3 (southeast), murals 1-6; Portico 4 (northwest), murals 1-5; Portico 5 (northeast), murals 1-4; (Fuente 1995g: 21.4: 336-37; Miller 1973, 113): human/deity in procession : Tlaloc as the god of maize (or, possibly, Yacatecutli, merchant's god [Séjourné 1959: Figure 12]) |  |
| | Zacuala Palace, Portico 3, mural 3 (adapted from Fuente 1995g: 336, fig. 21.4) | |
| ML | Proposed date for Portico 3, mural 3: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) | |
| Principal patio and surrounding portico-room groups | | |
| | Principal Patio, "Patio Principal" (Fuente 1995g: 21.5: 337-38): abstract: undulating forms with plumes, conchs and caracols, or plumed serpent; human/deity: "la balsa [platform] que lleva a Quetzalcoatl" (Séjourné 1959: 29, also fig. 10) | |
| ML | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) | |
| | Portico 7, West Portico, across from steps and platform (Fuente 1995g: 21.7: 338-39; Séjourné 1959: 22 [LS saw 6 examples, per Fuente], fig. 3): avian: bird feet, torso, bifid tongue (lineup of multiples suggests procession context) | |
| ML | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) | |
| | Portico 11, North Portico (Fuente 1995g: 21.6: 338): profile figure on a platform (or boat), possibly in procession ? | |
| | Portico 12, South Portico (Fuente 1995g: 21.10: 339-40; Séjourné 1959, fig. 4): human: personage with flow of flowers; procession |  |
| | Zacuala Palace, Portico 12 (adapted from Fuente 1995g: fig. 21.10) | |
| ML | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) | |

| | |
|---|---|
| Zacuala Palace, p. 3/3 | |
| Patio 13 group (north part of the building: Sejourné's "Conjunto Noroeste") | |
| | Patio 13: (Fuente 1995g: 21.9: 339): human/deity: Xipe |
| | Portico 13 and 13a; Rooms 13 and 13a (Fuente 1995g: 21.8: 339; Séjourné 1959, fig. 7): avian: birds with shield and flow; procession? |
| Patio 2 group (south part of building) | |
| | Portico 2, Patio 2 and Portico 2a, murals 1-10 (Fuente 1995g: 21.3: 321, 324, 336; Miller 1973: 111): human/deity: red Quetzalcoatl, carrying netted jaguar mask; other figures are in profile per Sejourné cited by Fuente; procession suggested |
| | ML Proposed date for Portico 2, murals 6 and 7: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| ML | Northeast group / Conjunto Noreste (Lombardo 1995: 35 cited Séjourné 1959, fig. 6): fragment |
| | ML Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |

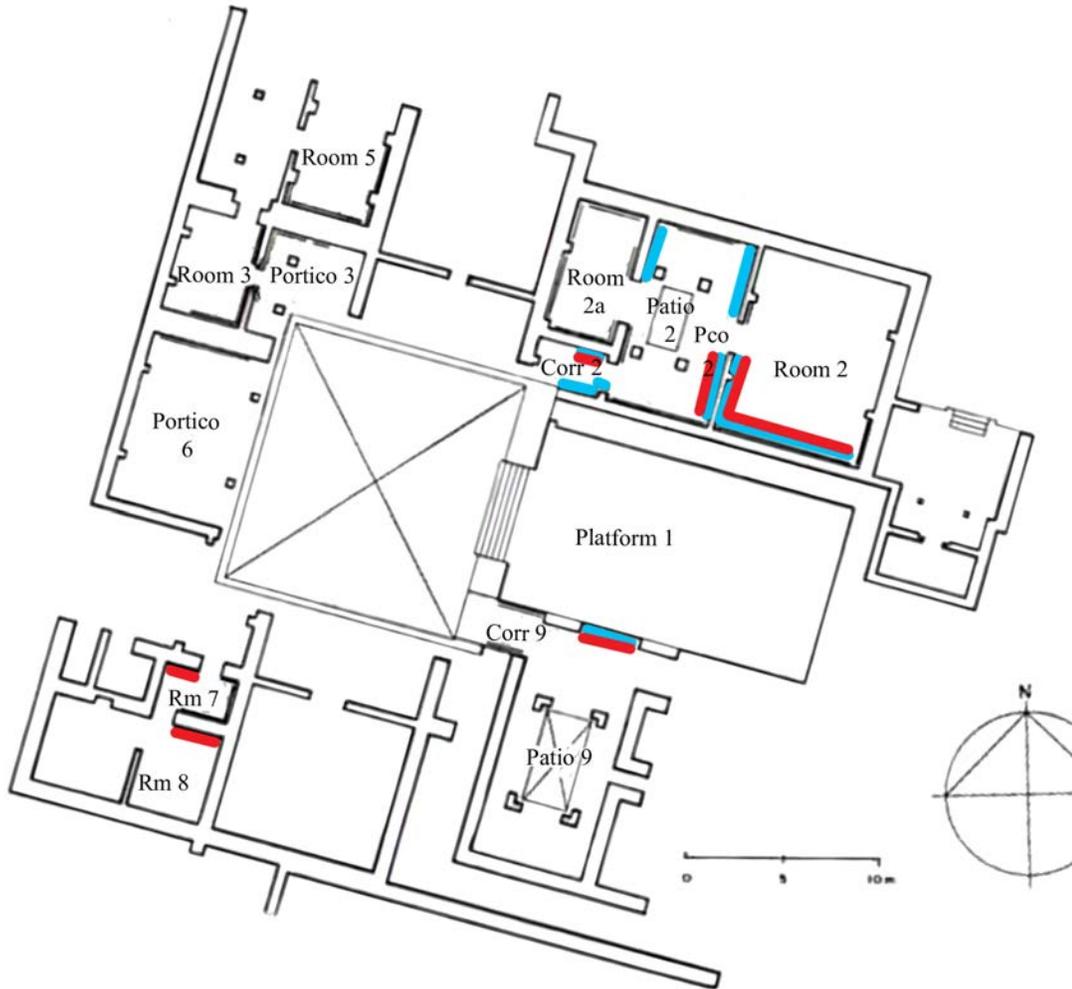
| | |
|--------------------------------|--|
| Midtown west: Yahualala | |
| ML | Patio 1 group |
| | Portico 1, mural 1 (Fuente 1995f: 22.1: 343; Miller 1973: 107): abstract: polylobed design with stars, conchs in the interior |
| | ML Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |

| | |
|--------------------------------|---|
| Midtown west: Totómetla | |
| Room 1 group | |
| | Portico 1 (Juárez and Ávila 1995: 24.1: 348, 359): avian: eagles; abstract: rhombuses; procession |
| |  |
| | <small>Totómetla, Portico 1, mural 1 (adapted from Juárez and Ávila 1995: 359, fig 24.1, drawn by Alberto Juárez Osnaya).</small> |
| Room 2 group | |
| | Portico 2 (Juárez and Ávila 1995: 24.2: 359) human/deity: Tlaloc or "Dios de la Tormenta"; procession |
| Trench 12 | |
| | Quadrants 1, 2, 3 I, J, K (Juárez and Ávila 1995: 24.3: 359-60): swallows or doves; procession |
| | Quadrants 1F and G (Juárez and Ávila 1995: 24.4: 360): avian: chicks, 2 small bird heads in profile |
| | Quadrants 4 and 5E, F, and G (Juárez and Ávila 1995: 24.5360): shell: stylized caracols , sectioned |

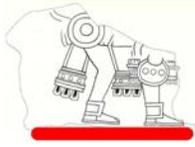
| Lower west side: La Ventilla | |
|-------------------------------------|---|
| | Sector 1 |
| | <p>Temple of Red Borders (Templo de Bordes Rojos) mural 1: tablero: sectioned conch shells; talud: Tajín style interlaced bands, border of scallop shells (Mercado and Martínez 1995: 17.1.1: 165, 169) mural 2 and 3: talud: sectioned conch shells (Mercado and Martínez 1995: 17.1.1: 167, lám. 8) mural 4: side of stairway (Mercado and Martínez 1995: 17.1: 166, lám. 3)</p> |
| | Murales 4-5: (Mercado and Martínez 1995: 17.1.2: 169-172): sectioned conch shells |
| | Plaza of the Chalchihuitls: panels: red trilobes on knives; borders: chalchihuitls with 3 concentric rings (Mercado and Martínez 1995: 17.1.2: 167: lám. 10, 11, 12; 171-172) |
| | Sector 2 |
| | <p>Jaguar Group North Portico: jaguars in procession: NE wall, W wall, in front of priests in procession (Padilla and Ruiz 1995: 17.2: 173, 185-188); North Room: jaguars in procession: (Padilla and Ruiz 1995: 17.2: 177-178: lám. 6- 9) Southeast Room: bottom border of hills encasing stars (Padilla and Ruiz 1995: 17.2: 178-179: lám. 10-13) West Room: bottom border of plain hills (Padilla and Ruiz 1995: 17.2: 179: lám. 14-15) Portico: three murals of priests in procession; borders include freshwater eyes (Padilla and Ruiz 1995: 17.2: 185-187)</p> |
| |  <p>La Ventilla Jaguar Group Portico priests (adapted from Padilla and Zúñiga 1995: 185, fig. 17.14)</p>  <p>La Ventilla Jaguar Group Portico priests (adapted from Padilla and Zúñiga 1995: 187, fig. 17.20)</p> |
| | Plaza of the Glyphs (Padilla and Ruiz 1995: 17.2: 179-183: lám. 16-39 (Padilla 1995: 188-89): glyphs |
| | Person painted on the floor next to a drain: north of the Plaza de los Glifos, small patio near a drain (Zuniga 1995: 17.2: 189): personage watering a maguey with fresh water from his penis |
| L | Sector 3 |
| | Portico sur, murals 1-4 (Gómez and Ramos 1995: 17.3: 190, 193-194): feline: seated? |
| | L Proposed date: Teo IIIA (Late Xolalpan [Gómez and Ramos 1995: 194]) |
| | Sector 4 |
| | north of the Jaguar Group, south and north rooms (Nava and Ruiz 1995: 17.4: 195-201): front facing figures with panaches; background: fields and canals (stylistically similar to those of Tetitla Room 12), with precious jades, shells, swimmers |

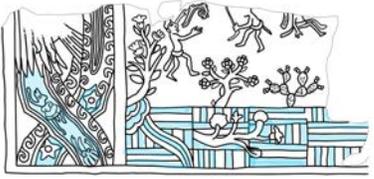
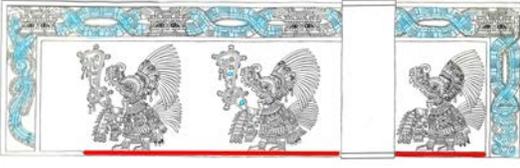
| Upper east side: Amanalco, Barrio of the Looted Murals | |
|--|--|
| Techinantitla | |
| West and north walls (Cabrera 1995a: 14.1: 132-33, 136-37): human: Tlaloc -faced profile figs, footprints below; procession | |
|  |  |
| Techinantitla West wall, lower part, personage 1 (adapted from Cabrera 1995a: 131, fig. 14.1 ["según Saburo Sugiyama en Berrin, 1988"]) | Techinantitla North wall, personage 2 (adapted from Cabrera 1995a: 136, fig. 14.4 ["según Saburo Sugiyama en Berrin, 1988"]) |
|  |  |
| Techinantitla West wall, upper part. Personage 3 (adapted from Cabrera 1995a: 133, fig. 14.3 ["según Saburo Sugiyama en Berrin, 1988"]) | Techinantitla West wall, upper part. Personage 4 (adapted from Cabrera 1995a: 136, fig. 14.4 ["según Saburo Sugiyama en Berrin, 1988"]) |
| Structure 2, mural 1 (Cabrera 1995a: 14.2: 137): Large bird in frame (Pasztory 1993g: 52: 204): (possibly in procession) with elaborate speech scroll, surrounded by human footprints |  |
| | Techinantitla Structure 2, mural 1 (adapted from Cabrera 1995a: 137, fig. 14.5) |
| L | Proposed date: Teo IV ("Metepec" by ceramic association [Cabrera 1995: 137]) |
| <i>Various other fragments thought to have originated in Techinantitla:</i> | |
| ML; L | Proposed date: Teo III-III A or IV ("4th Stylistic Phase" [Lombardo 1995: 35, cites Berrin and C. Millon (ed.) 1988], associated with Xolalpan; "probably Metepec" [see Pasztory 1993h and other entries]) |
| Anthropomorphic feathered feline (Pasztory 1993a: 48: 201): flame scrolls from paws, probably in procession | |
| L | Proposed date: Teo IV (Metepec [Pasztory 1993: 200-201]) |
| Coyotes and deer (Pasztory 1993b: 46: 200) | |
| L | Proposed date: Teo IV (Metepec [Pasztory 1993: 200]) |
| Elite figure wearing tassel headdress with profile talon emblem at his feet (Pasztory 1993c: 43-45: 198-199) | |
| L | Proposed date: Teo IV (Metepec [Pasztory 1993: 195]) |
| Feathered serpent and flowering trees (Pasztory 1993e: 50: 202-205): fresh water streams from mouth | |
| L | Proposed date: Teo IV (Metepec [Pasztory 1993: 202]) |
| Goddess with claws (Pasztory 1993f: 40: 195) | |
| L | Proposed date: Teo IV (Metepec [Pasztory 1993: 195]) |
| Probable doorway border fragment (Pasztory 1993i: 51: 203) | |
| L | Proposed date: Teo IV (Metepec [Pasztory 1993: 202-205]) |
| Small bird carrying a spear (Pasztory 1993j: 49: 201): probably in procession | |
| L | Proposed date: Teo IV (Metepec [Pasztory 1993: 201]) |
| Small bird in a u-shaped form (Pasztory 1993k: 46: 200) | |
| L | Proposed date: Teo IV (Metepec [Pasztory 1993: 201]) |
| Storm god (Pasztory 1993l: 39: 195) | |
| L | Proposed date: Teo IV (Metepec [Pasztory 1993: 202-205]) |
| Tlacuilapaxco , Series pertaining to maguey rituals | |
| ML | Proposed date: Teo III-III A ("4th Stylistic Phase" [Lombardo 1995: 35, cites Berrin (ed.) 1988], associated with Xolalpan) |
| Elite figure with maguey leaves (Pasztory 1993d: 42: 197) probably in procession | |
| L | Proposed date: Teo IV (Metepec [Pasztory 1993: 197]) |

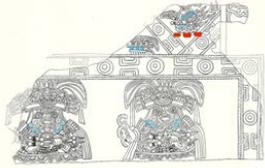
Upper east side: Tepantitla



Tepantitla plan (adapted from Fuente 1995e: 138, Plano 15)

| | |
|-----------------|--|
| Southwest group | |
| | <p>Room 7, mural 1 (Miller 1973: 105): figure in procession</p>  <p>Tepantitla Room 7, mural 1 (adapted from Miller 1973: 105, fig. 190).</p> |
| ML | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | <p>Room 8, mural 1 (Miller 1973: 105): figure in procession</p>  <p>Tepantitla Room 8, mural 1 (adapted from Miller 1973: 105, fig. 191).</p> |
| ML | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |

| Tepantitla, p. 2/3, Northeast group | |
|--|---|
| | Corridor 2, mural 1 (Miller 1973: 94): figure in procession , accoutrements include fresh water drops (with eyes) |
| ML | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Corridor 2, mural 2 (Miller 1973: 95): vertical border with possible fresh water eyes in linear border |
| ML | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Corridor 2, mural 3 (Miller 1973: 95): fragment, identical to Corridor 2, mural 1's accoutrements, including fresh water drops (with eyes) |
| ML | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Portico 2, mural 2 (Miller 1973: 96): pendant of "Tlalocán" – fragment with Tlaloc face, identical to Portico 2, mural 3's horizontal center border, and fragment with Tlaloc's paradise style figures |
| ML | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |
| | Portico 2, vertical border of the entrance to Room 2: a row of flowering plants, with symbols of fresh water and seawater (Fuente 1995e: 15: 150, lamina 45); represents the "ciclo hidrológico del agua como ocurre en la naturaleza" (Angulo 1995: 76) |
| | Portico 2, mural 3 (Fuente 1995e: 15: 144 photo; Miller 1973: 96-97): Deity flanked by profile figures (suggesting procession); over "Tlalocán" water mountain and figures (for extended discussion see Browder 2005; Uriarte 1995) |
| |  https://commons.wikimedia.org/wiki/File:Tlalocan.jpg (Escocia1; licensed under the Creative Commons Attribution-Share Alike 3.0 Unported license) |
| ML or L | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35]; associated with Xolalpan); Teo III-IV (Xolalpan [Armillas 1991 [1950]: 223]. NOTE: Armillas did not include Metepec in his chronology, so his designation covers Metepec as well as Xolalpan); or Teo IV (Late Xolalpan and Metepec [Pasztor 1997: 87]) |
| | Portico 2, mural 6 (Fuente 1995e: 15: 150 photo; Miller 1973: 98): chinampa fields with frolicking figures; vertical borders have water symbols |
| |  Tepantitla Portico 2, mural 6 (drawing by S.T. Evans from Miller 1973: 98, fig. 167). |
| | Room 2, murals 2-3 (Fuente 1995e: 15: 150 photo; Miller 1973: 99-103): seed-sowing priests in procession ; emanation scrolls feature pierced disks ; feathered serpent border with fresh water coming from his mouth |
| |  Tepantitla, Room 2, mural 3 (adapted from Miller 1973: Fig. 173). |
| ML | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) |

| Tepantitla, p. 3/3, Northwest and Southeast groups | | |
|---|---|---|
| Northwest group | | |
| | Room 3, mural 3 (Miller 1973: 104): | circular frames with Reptile's Eye motifs |
| | Room 5, mural 3 (Miller 1973: 104): | circular frames with Reptile's Eye motifs |
| Southeast group | | |
| | Patio 9, mural 3 (Miller 1973: 106): lower register: frontal figures, each with darts in its left hand, right appendage being a feline paw with claws; upper register: diagonal bands form diamond-shaped cartouches for profile figures (suggesting procession) with darts on sleds with flames from the back, and other, triangular cartouches present roof ornaments in the style of the water temple murals of Tetitla, with symbols of state control, including pierced disks |  |
| ML | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35], associated with Xolalpan) | |

Tepantitla Patio 9, mural 3 (adapted from Miller 1973: 106, fig. 193).

| Lower east side: Teopancaxco | | |
|-------------------------------------|--|--|
| Casa Barrios o del Alfarero | | |
| ML | Proposed date: Teo III-IIIa ("4th Stylistic Phase" [Lombardo 1995: 34-35, cites Gamio 1922: lam. 24], associated with Xolalpan) | |
| | Room 1, mural 1 (Cabrera 1995h: 16.1: 157-158): seed-casting priests face a solar disk with a center of interlaced bands, possible procession |  |
| | Room 1 (Cabrera 1995h: 16.2: 158, 161): warrior with shield and arrows, possible procession | |
| | Room 1 (Cabrera 1995h: 16.3: 161): seed-casting priest, possible procession | |

Teopancaxco, Room 1, mural 1 (adapted from Cabrera 1995h: 16.1: 157, fig. 16.1).

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<http://anth.la.psu.edu/people/ste> • ste@psu.edu

Ritual Processions in Ancient Tollan: The Legacy in Stone

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Here we present a brief study analyzing the depictions of key characters in processions the architecture at the archaeological site of Tula, located in the modern city of Tula (Hidalgo, México) (**Figure 1**). Ancient Tula was a city that evolved principally between CE 900-1150,

eventually covering more than 16 km² between the Tula and Rosas Rivers, with a ceremonial center adjacent to the broad and fast-moving Tula River.

The majority of the sculptural representations in Tula depict richly costumed personages with weapons

appropriate to a warrior elite. Here we focus on specific groups of individuals placed in strategic locations within the ceremonial precinct known as Tula Grande (**Figure 2**), who are directed or are oriented towards a point, indicating to us that these groups are processions. These individuals were portrayed on small platforms called benches, which are low constructions horizontally placed along walls, with a height between 50 and 60 centimeters.

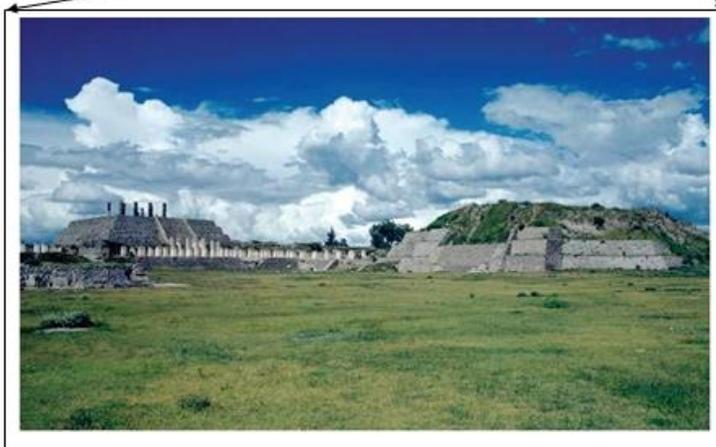


Figure 1.
Location of the Archaeological
Zone of Tula, State of Hidalgo,
Mexico.

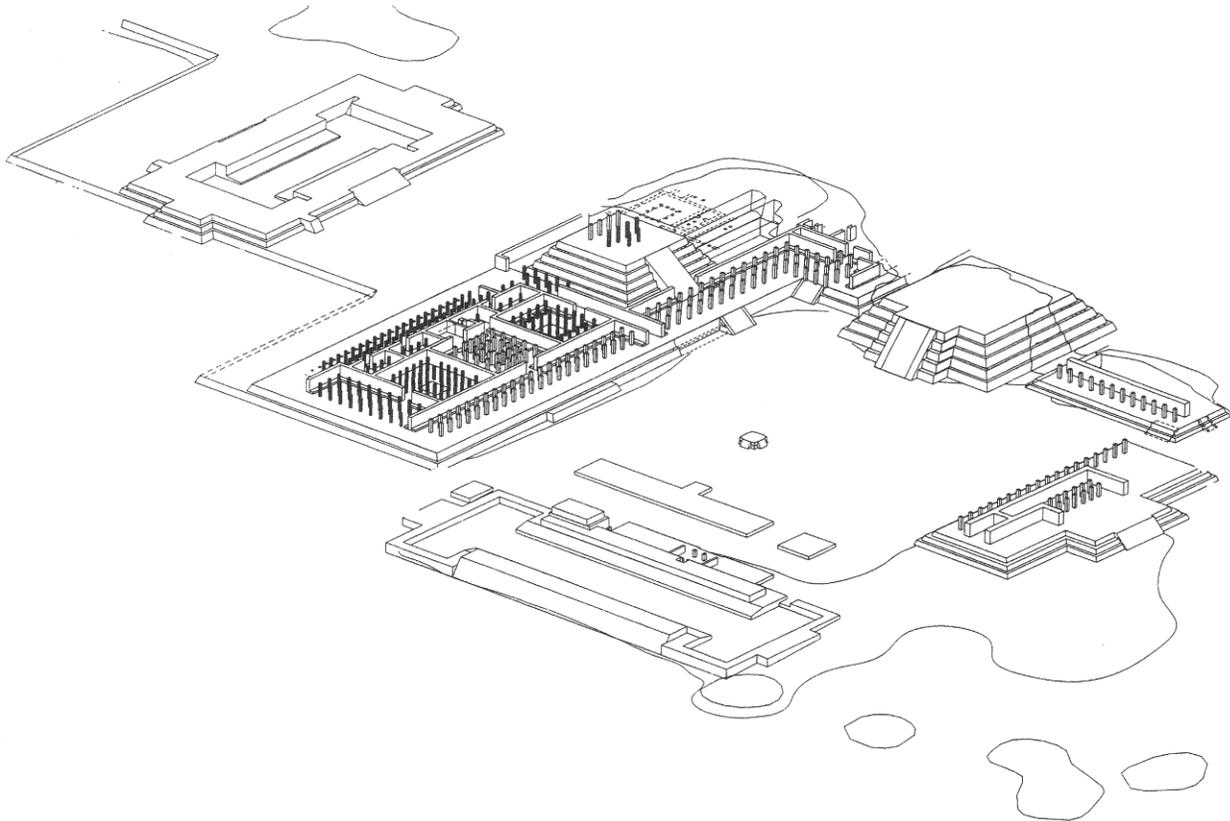
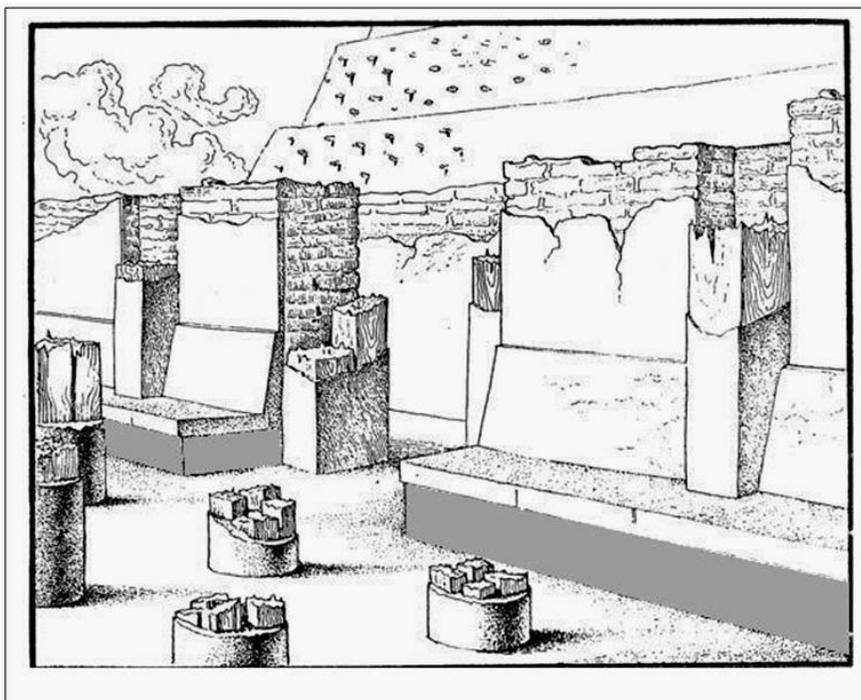


Figure 2 (above). Buildings of the ceremonial precinct known as Tula Grande.
 (Drawing: Alba Guadalupe Mastache and Jesús Acevedo García)



Between 1940 and 1960, Jorge R. Acosta discovered several benches that were still *in situ*; he considered all the benches to be part of the same construction phase (**Figure 3**).

Figure 3 (at left). Benches at the Burned Palace, Tula.
 (Cobean, Jiménez and Mastache 2012: Fig. VII.11, after Acosta 1956)

They were found in the Burnt Palace (Rooms 2 and 4, and in Hall 2); in Vestibule 1 (located between Pyramids B and C), and in the Altar of Building 4

(Figure 4). Surely the benches had various functions, including those of seats and altars (Acosta 1945; 1956; 1957; 1961; 1967).

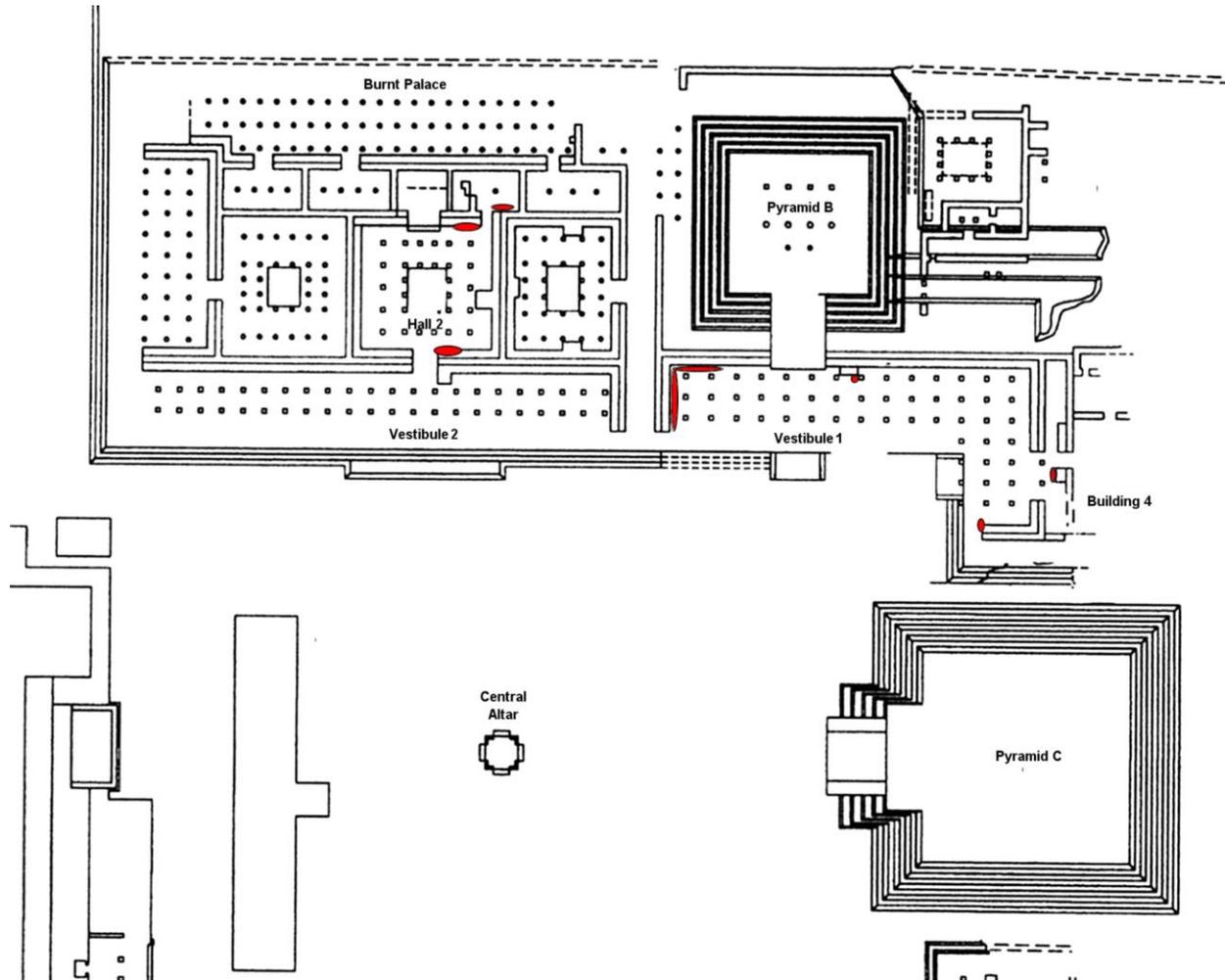


Figure 4. Location of the benches *in situ* in the ceremonial precinct. (After an architectural drawing of Fernando Báez Urincho).

The fronts of the benches were covered with stone panels sculpted in relief in two registers, thus a kind of small *talud-tablero* format. On the lower wall, the talud (usually vertical but sometimes slightly sloping), standing individuals were

represented, and in the upper register, the vertical tablero, were sculpted serpents with undulating bodies. At least two types of ritual processions existed that were led by kings, priests and/or important warriors, as we will discuss here.

Processions in Tula

The groups of individuals represented on the benches have various characteristics: they are men in complex costumes including headdresses, capes, and specific garments. They wear their insignias of prestige (such as ear spools, breastplates, and necklaces), but they also carry arms and staffs. Most of these personages carry richly feathered shields in one hand, and a weapon in the other hand (an atlatl, a spear, a feathered staff, or a curved weapon). It is possible that these images are portraits of individuals,

but they do not bear specific names, instead they display detailed paraphernalia and costumes of Toltec elites. These elites are depicted with a frontal or three-quarter view of the torso but with the face in profile. They are walking towards a specific point in space and they are guided or accompanied by serpents placed above their heads. In only one case, the elite figures are accompanied by bisected conch shells instead of serpents.

Warriors with feathered serpents and with serpents having conch shells

For this type of procession, we have three groups (A, B, C), each composed of two lines or processions of personages who converge on a meeting point, or on a very

important individual (see Figure 18, below). These personages are still found *in situ*, and are depicted with a line of serpents above their bodies.

Group A: With two processions, Group A is located in Hall 2 of the Burned Palace.

Procession 1

Beginning in Room 2, (**Figures 5a, 5b**) Procession 1 originally continued on the east wall of Hall 2, and finished in the exit that enters Vestibule 2, leading toward the Central Plaza. The person leading this

procession (Figure 5a) is a warrior with circular eye goggles, thus having attributes of the principal rain deity or Storm God, Tlaloc. Among the individuals at the end of this procession is an aged warrior, with a well-pronounced jaw and a curved back (Figure 5b).

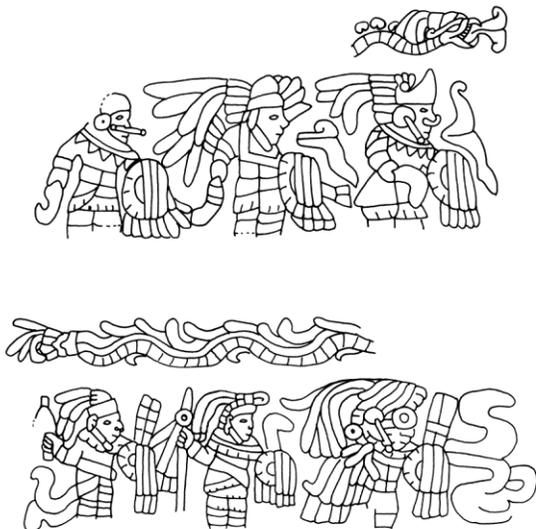
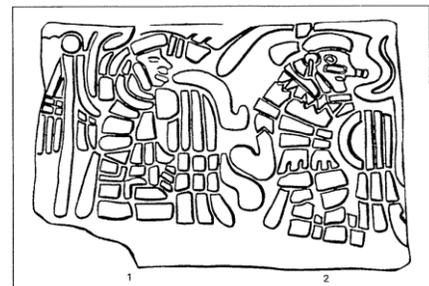


Figure 5a and 5b. Group A, Procession 1 in the Burned Palace.

5a, at left: Individuals who lead the group exiting Hall 2 (Drawing: Elizabeth Jiménez García);

5b, at right:

The last individuals who leave Room 2 in Hall 2. (after Acosta 1957)



Procession 2

Also in Group A, Procession 2 also could have begun in Room 2 so as to move towards the north wall of Hall 2 (**Figure 6**), then continuing towards the west wall, and exiting in Vestibule 2 in front of the previous Group. Although we cannot know who led this second group of personages, it is probable that this leader was an important

warrior or priest of a deity related to Ehecatl-Quetzalcoatl, as the deity of wind and creativity was known by the Nahuas of the Central Mexican Highlands during the Late Postclassic period. Both processions exited Hall 2 and continued towards the south to enter Vestibule 2, which had access to the main plaza.

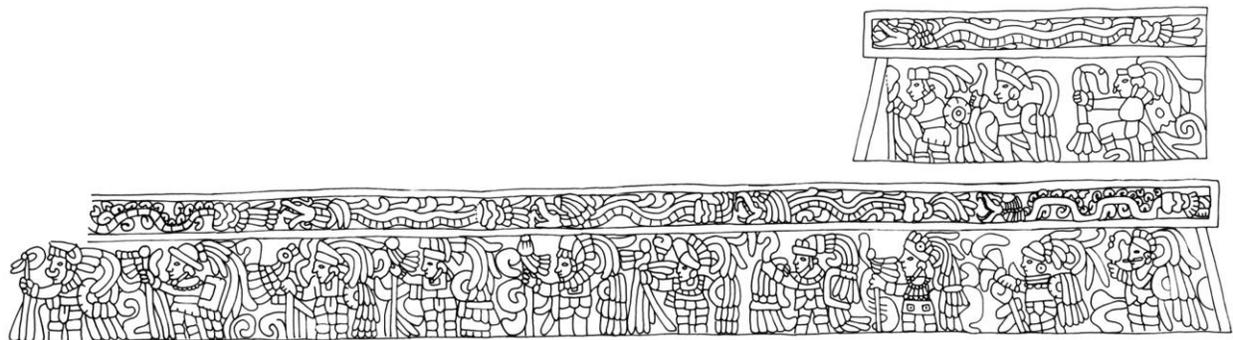


Figure 6. Group A, Procession 2. The final individuals in this procession. North Side of Hall 2, Burned Palace. (Drawing: Elizabeth Jiménez García)

Group B: has parts of two processions (3 and 4) that eventually converged in Vestibule 1, and continued towards Pyramid B.

Procession 3

Procession 3 was called the “*Friso de los Caciques*” (Frieze of the Lords) (**Figure 7a**) by Jorge Acosta (1945) and Hugo Moedano (1947), and the individuals depicted are carrying a shield and a baton

(or staff) either beside them, or resting on their shoulders. They are walking towards the stairway that offers access to the temple on Pyramid B.

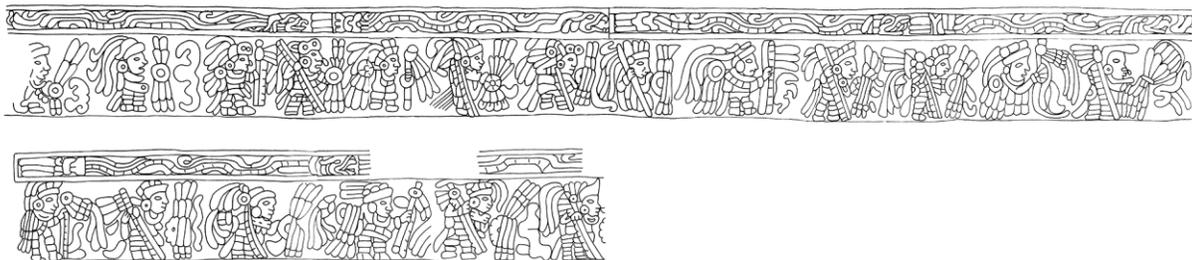


Figure 7a. Group B, Processions 3 and 4 in Vestibule 1; here are the individuals of Procession 3, known as the “Frieze of the Lords.” (Drawing: Elizabeth Jiménez García).

Procession 4

The second part of Group B, Procession 4, survives as only one panel *in situ* near Pyramid C. It shows the partial torso of a warrior holding a round shield in his left hand and a curved weapon in his right hand (**Figure 7b**). This person was at the final end of the procession, and was among the personages represented on the southeast wall of Vestibule 1, which also had access to the base of the main stairway of Pyramid B. The Frieze of the Lords started the procession on the west side of Vestibule 1. Another group of individuals started their procession on the opposite end of the same vestibule, but both processions eventually converge at the base of Pyramid B. The lone *in situ* warrior for Procession 4 (unlike the figures in the Frieze of the Lords) does not carry a staff, but instead uses a curved weapon.

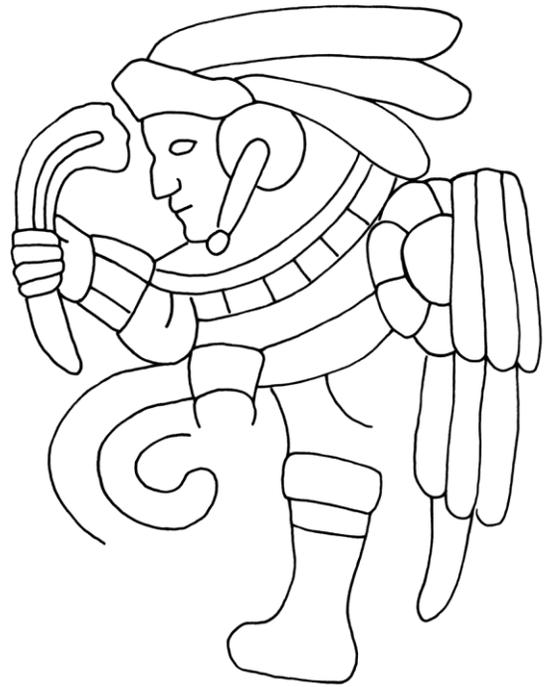


Figure 7b Group B, Processions 3 and 4 in Vestibule 1; this is the only individual preserved in Procession 4. (Drawing: Elizabeth Jiménez García).

Group C: is part of the Altar of Building 4 (**Figure 8**).



Figure 8. Group C, Processions 5 and 6, on the Altar of Building 4.. The preserved individuals form part of Procession 5, while Procession 6 survives only as a scepter or plumed baton to the left of central (front-facing) individual. (Drawing: Elizabeth Jiménez García)

Processions 5 and 6

These two processions converge near a personage whose body is represented frontally, with his face in profile: behind him there is a feathered serpent with an undulating body oriented vertically. Due to the central placement of this figure, together with emphasis on the Feathered Serpent, Acosta (1956: 74-80) identified him as the “Great Priest Quetzalcoatl” (*Gran Sacerdote Quetzalcóatl*). The individuals depicted in this bench (or altar) look like real people, personages who are occupying rooms in a large structure behind the altar, which Fernando Báez (2007) proposes functioned as a royal palace.

All of the individuals preserved *in situ* when Jorge Acosta excavated sections of this structure have war-like connotations; all of them carry at least one weapon. The central figure carries two weapons: a shield in his left hand and a curved weapon in his right hand. This interpretation leads us to speculate that the main guiding leader in Procession 2 of Group A (Hall 2) was also a

sacred individual with close ties to the feathered serpent. For the two groups of principal warriors, one presumably was associated with Tlaloc, while the other is still not identified, but probably was under the guardianship of Quetzalcoatl, whose image is placed above the heads of the second group of warriors.

These three groups of processions are accompanied by a line of serpents that advances horizontally in the panel formed by the small frieze of serpents that are leaving the benches and advancing in the same direction as the humans. All of these serpents have feathers on their backs, and only in Hall 2 do we observe that in addition to plumed serpents, there were other serpents with bisected conch shells on their backs and bunches of feathers on their heads and in their rattles (**Figure 9**). The different types of serpents alternated, as we can see in Procession 2 where one serpent with conch shells is followed by three plumed serpents, and then another serpent with conch shells.

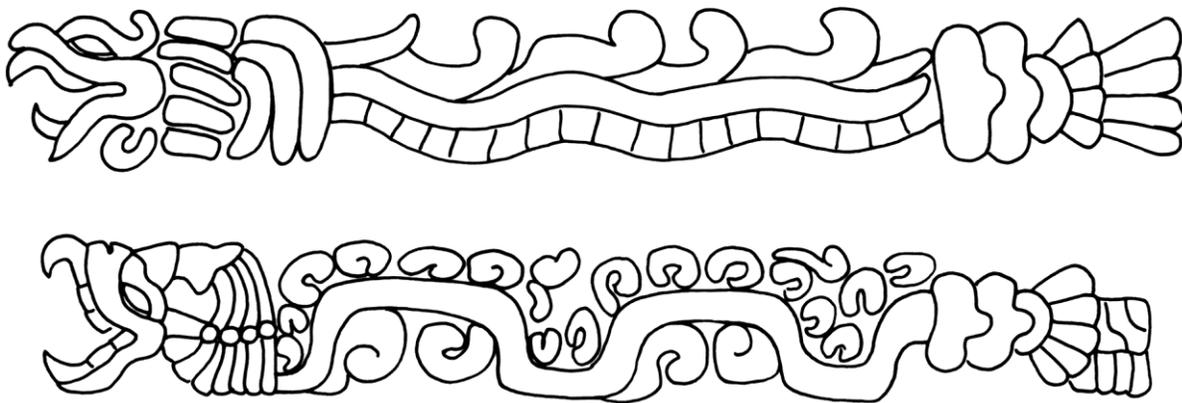


Figure 9. A feathered serpent and a serpent with a bisected conch shells. Hall 2 of the Burned Palace. (after a drawing in the Archivo Técnico de la Coordinación Nacional de Arqueología, INAH).

In Room 4, Acosta (1961) found the remains of another bench (**Figure 10**) where the placement of the personages is somewhat different. Room 4 is a small closed space that connects with Hall 2 of the Burned Palace via a stairway that goes down to the Hall's floor surface. The stairway's axis is north-south, and it is aligned with the exit of Hall 2 into the southern vestibule. Inside Room 4 there is a bench with reliefs

of two individuals with their torsos presented frontally, wearing butterfly breastplates. They do not have shields like many warriors in other processions, but each has a curved weapon in his left hand and an atlatl in his right hand. Similar to the central personage of the altar in Building 4 (Group C), one of these individuals also has a plumed serpent behind him with a horizontal undulating body.

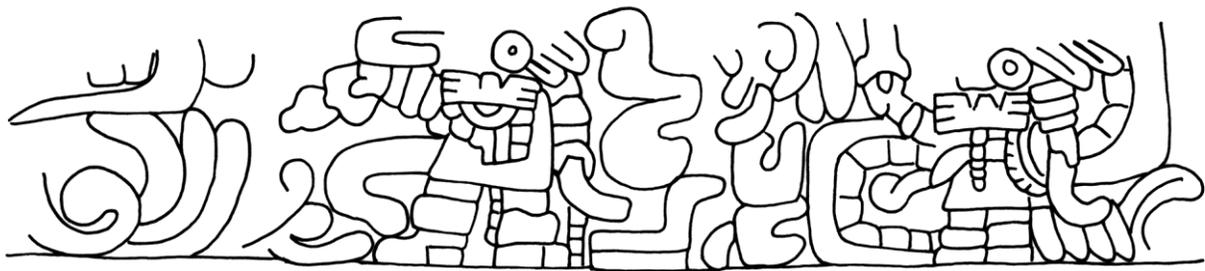


Figure 10. Warriors, one with a plumed serpent behind its body. Panel from Room 4, Hall 2 of the Burned Palace. (after a drawing of Acosta 1961).

In both cases (**Figure 11**) these outstanding personages are found in enclosed or restricted spaces -- one possibly associated with a palace, and the other associated with an exclusive room giving access to the central hall of an architectural complex that Jorge Acosta called the Burned

Palace (*Palacio Quemado*). He inferred its possible function as a palace upon finding clear evidence of this building having been burned down when the city the city was expanding during the Tollan phase, or, soon after the city and the sacred precinct lost its hegemony and was abandoned.

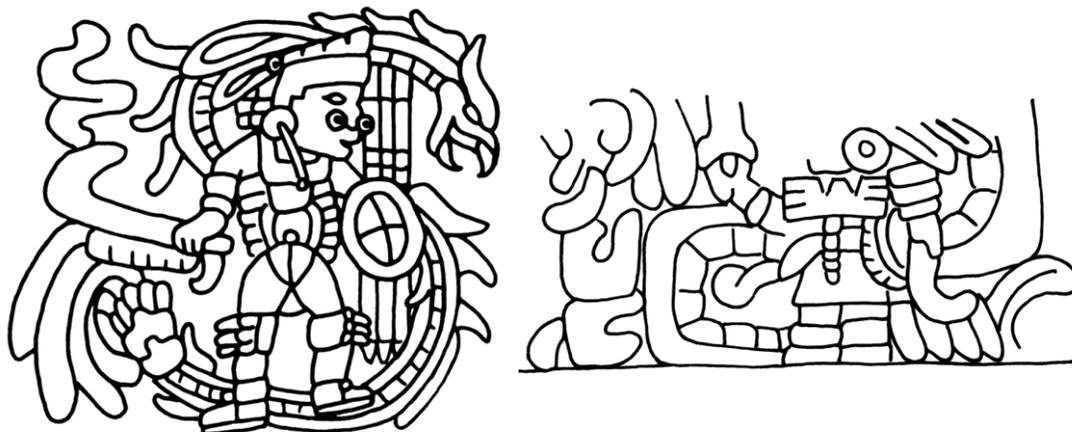


Figure 11. High-ranking warriors sacred to Quetzalcóatl. Details of panels from the Altar in Building 4 (Palace east of the Vestibule) and Room 4, Hall 2 (Burned Palace). (drawings: Elizabeth Jiménez García).

When we compare contexts and iconography of the benches that are still *in situ*, but in an advanced state of disrepair, we find an interesting pattern. Group A and Group B processions have features in common. The processions located on the east are composed of warriors, each carrying a plumed shield, and even more distinguished for using a curved weapon. In addition they have two classes of objects associated with Tlaloc (Jiménez G. 1998): a round breastplate with fringe, and round earspools having a central tube (Type Q). In particular, the warrior leading Procession 1 in Hall 2 has large goggles, leaving no doubt as to his affiliation with the Tlaloc cult. Likewise, in Procession 4 of Vestibule 1, the warrior has a round breastplate with fringe,

earspools of Type Q, and a curved weapon. Both processions located to the east, one in Hall 2 and the other in Vestibule 1, are clearly associated with Tlaloc.

In contrast, the warriors in the processions located in the west are distinguished by carrying plumed shields and plumed batons or staffs in front of their torsos or on their shoulders. The key object here is the baton or staff and not an offensive weapon. We propose that the processions placed on the east side of both structures consist of warriors having ideological ties with Tlaloc and are ready to make war. In contrast, these personages placed on the west side would be old warriors, no longer are active.

In the polychrome panel (**Figure 12**) found in Hall 2 (Acosta 1957), unfortunately not *in situ*, there are two warriors: one with goggles and a skirt-like garment having panels or strips of paper represented by painted black lines. This figure supports our proposition concerning the existence of warriors dressed with the attributes of deities (in this case Tlaloc), who went to war to capture prisoners in order to offer them to their deity. The direction that the two individuals on the polychrome panel are walking (the same as the Tlaloc figure in Procession 1) suggests that this panel was placed on the bench of the east side of Hall 2.

Figure 12. Warriors, one of them with a skirt-like garment of rectangular cloth or paper strips, on a polychrome relief, Hall 2 of the Burned Palace. (Cobean, Jiménez and Mastache:2012:lám. 38)



Two warriors, who have behind them plumed serpents with vertical undulations in their bodies, may be warriors of the highest rank (see Figure 11). The figure in Room 4 adjoining Hall 2 could congregate with a few other warriors in an exclusive area dedicated for use by the principal captains of Tula. The warrior depicted on the bench in Building 4 where two lines or processions of warriors converge could also represent a

captain. The Temple of the Jaguars at Chichén Itzá has a similar scene of a warrior with an undulating serpent behind his torso. This personage also wears goggles, which associate him with Tlaloc (**Figure 13**). In Tula, none of the warriors with vertical undulating serpents possess goggles, but the close relation is clear for the warrior-Tlalocs with plumed serpents and Quetzalcoatl.



Figure 13. Individual with Tláloc goggles and a plumed serpent behind him, from the Temple of the Jaguar at Chichén Itzá, Yucatán. (From: Castellón 2002:29).

Warriors guarded by the symbol of the bisected conch shells.

Yet another type of procession features figures under bisected conch shells surrounded by volutes, which probably relate these personages to the god later called Ehecatl-Quetzalcoatl. Jorge R. Acosta (1956: 62-63) found a panel in the Palace of Quetzalcoatl (**Figure 14**) where it was repurposed to cover the upper part of a drain; the panel was probably originally part of an early frieze. The reliefs on this panel have had limited exposure to the elements,

and the sculptured weapons and costumes are well preserved. One of the characters has a headdress uncommon in Tula – a kind of helmet with rigid feathers, apparently from an eagle. This individual wears earpools, a nose plug, a butterfly pectoral and a dorsal disc (or mirror). He is garbed in cotton armor and holds two darts, objects that do not appear in the benches *in situ*. In front of him is another warrior, as indicated by a fragment of a headdress with long plumes.



Figure 14. Warriors with a row of cut conch shells above their heads, on a panel, Palace of Quetzalcoatl. (Jiménez García 2008:photo 26).

The bisected conch shells lie above these two figures. In codices from the Postclassic or Colonial periods, and in documentary sources, it is mentioned that one of the principal attributes of Ehecatl-Quetzalcoatl is the *ehcacozcatl*, a great bisected conch shell, either over the figure's

chest, or decorating his shield (Castellón 2002: 32), called by Sahagún “the spiral jewel of the wind” (1985: 886) (**Figure 15**). The bisected conch shell or sign of Venus occurs in Tula as a distinctive attribute of warriors who wear it as a kind of skirt-like garment.



Numerous blocks for cornices with carved reliefs of bisected conch shells from Epiclassic Tula Chico indicate that this image was very common during the early construction stages at Tula. It is possible that these cornices were associated with images of specific personages, but we are unsure if they were parts of processions.

Figure 15. Quetzalcóatl with his characteristic cut conch shell as a shield. *Códice Florentino*. (From: Ramírez 2002:50)

Warriors who travel on serpents and are protected by them.

A third type of procession can be discerned from worked stone blocks that might have been segments of benches. These objects, which we have arbitrarily termed “bench blocks”, are rectangular prisms that were partially reworked so that the upper section has the shape of a block, while the lower section has the shape of a panel. Acosta found a number of these prismatic “bench blocks” on the north side of Pyramid B, but they lacked clear contexts. Due to their shapes, we propose that the blocks were originally placed at floor level so that they did not fall off walls or facades.

The iconography of these objects suggests that they date to the apogee of Tula, or very near this time. On the thickest

sections there are serpents carved in high relief, while on the panel-shaped sections are sculptures of small warriors in various poses. A comparison of these objects shows that the serpents in high relief had undulating bodies, with the warriors being depicted on uncurved segments of the serpent bodies so that the serpents sometimes appear to be placed above the personages, while in other cases the warriors are placed standing on top of the serpents.

One of these sculptures depicts two individuals, protected by cotton armor, each armed with two darts in the left hand and carrying a dart thrower (Nahuatl: *atl-atl*) on the right arm, protected by cotton armor (**Figure 16**).

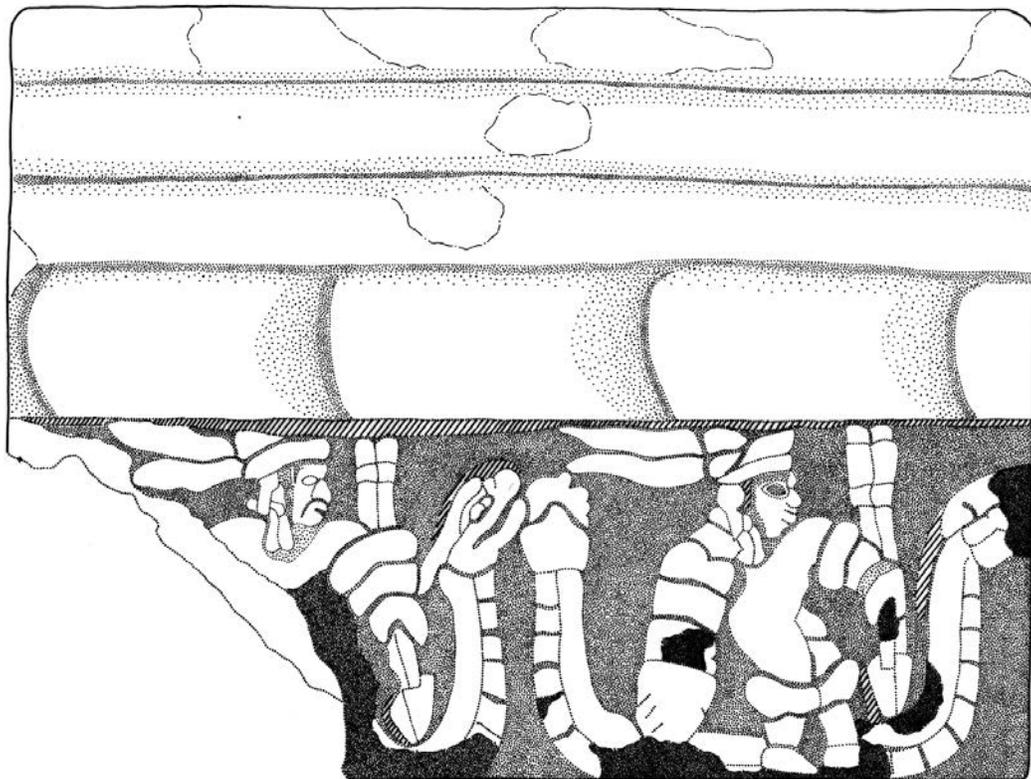


Figure 16. Warriors being carried by serpents. Bench block (?), possibly from the north side of Pyramid B. (drawing: Elizabeth Jiménez García and Daniel Correa Baltazar)

Each of these personages is placed on a serpent with a U-shaped body (similar to a canoe), which appears to be transporting him. These serpents have no feathers on their bodies, but they do have plumes above their eyes. Above them there is a large feathered serpent, with transversal lines on its stomach and feathers on its back. This great serpent is carved in high relief, and its

thick body is at the same height as the warriors. A scene very similar to this has been found in a mural at Cacaxtla (**Figure 17**). Castellón (2002: 34) observes that this mural depicts a personage travelling to his final destination on the body of a feathered serpent that transports him to different planes of the cosmos.



Figure 17. Individual on a plumed serpent. Mural at Cacaxtla, Tlaxcala. (adapted from Castellón 2002:34).

Processions in the Sacred Precinct of Tula Grande.

The existence of groups of individuals in procession placed in architectural spaces like the benches can offer information about the functions of these spaces and of the reliefs themselves (**Figure 18**). The benches of Tula are located in the most important buildings at the site. Being, on average, one-half meter in height, they provide space for persons to sit, to placing objects and offerings, or to display the ostentatious costumes used by specific individuals who were invited to

enter these restricted spaces. Another possible bench function could be to display tribute or war booty brought to Tula, where the king, Señor (lord) or *tlatoani* would honor his warriors, who afterwards would exit the building to be presented to the rest of the people. Everyone, both nobles and commoners, may have participated in the rituals that began with key processions, and whose elite members are depicted in the bench reliefs.

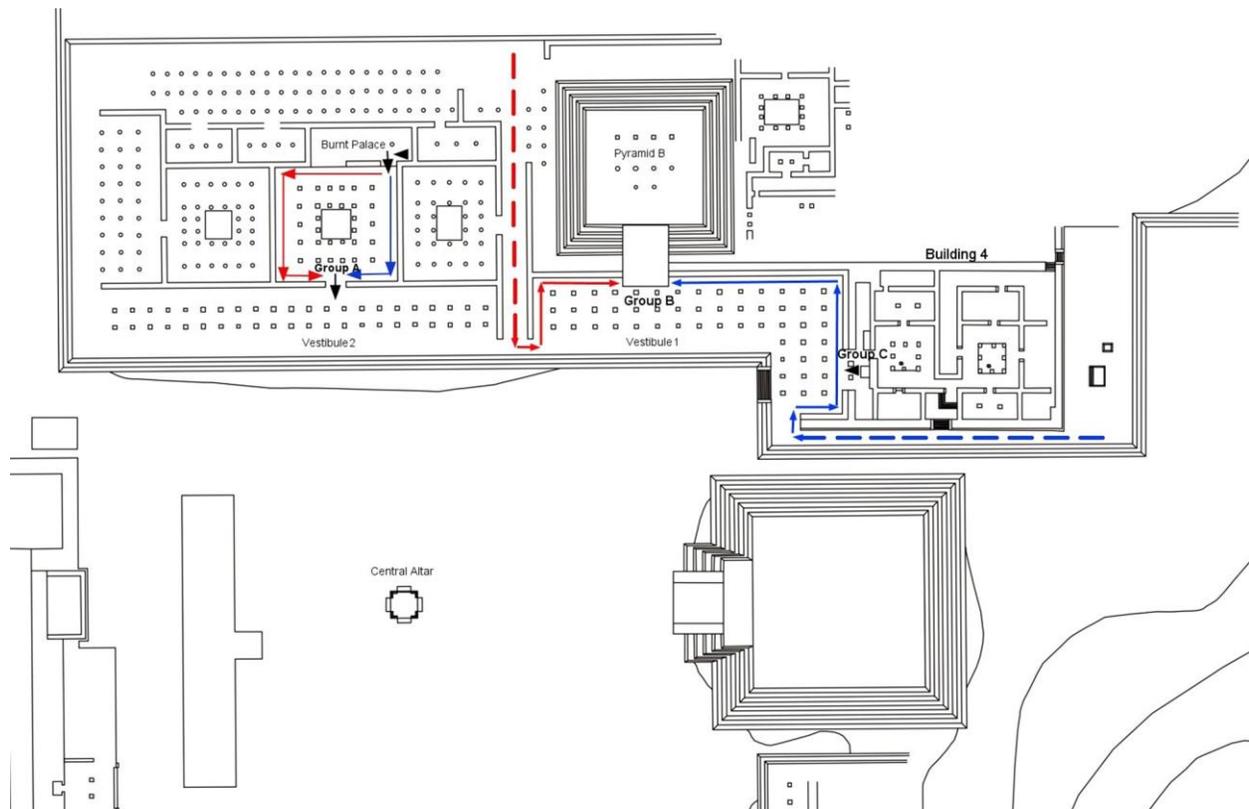


Figure 18. Directions of the Processions in Tula's ceremonial precinct. The arrows with dots show possible entrances. (after an architectural drawing of Fernando Báez Urincho)

On the other hand, the processions depicted on the benches of Vestibule 1, which began along the sides of Pyramids B and C, heading towards the stairway of Pyramid B, did not converge inside any

structure. This suggests that the individuals represented had arrived already costumed to Vestibule 1 in order to participate in ceremonial rites, possibly because they arrived from buildings or structures near the

precinct, or possibly because they represented different wards of the city, or they were subjects or allies of Tula.

In the case of the warriors who are standing on serpents, these scenes could symbolically represent canoe transport, which evokes warrior processions, or mythic incursions departing Tula for other regions, with each warrior transported by a serpent and being protected by feathered serpents. Our interpretations are limited, given that the original locations of these sculptures are unknown. For the moment, we consider these to be mythic processions of warriors who, along with other individuals shown in battles, form a select group of Toltec warriors who died in battle, and became members of a sacred pantheon.

The weapons that these personages carry are generally similar to some of the key archaeological objects recovered from the Cenote of Chichén Itzá, Yucatan. For example, a nearly complete atlatl found at Chichén measures 53.5 cm. long (Coggins 1992: fig. 8.14), although other Chichén atlatls are slightly larger or smaller. The find at Chichén of atlatl foreshafts gives us an idea of the size of the darts, some of which have a length of 40.5 cm. (Coggins 1992: fig. 8.27). The curved weapons (curved sticks) found at Chichén measure between 45-47 cm. long (Coggins 1992: figs. 8.31, 8.32). The curved weapons at Chichén are

essentially identical to sculptured images of these weapons at Tula. As have been analyzed by Mastache, Cobean and Healan (2002: 290-291), the rose-colored chert bifaces used as projectile points on the Chichén atlatls are identical in morphology and color to the chert points found by Guadalupe Mastache and Ana Maria Crespo in a Toltec lithics workshop in the southeastern alluvial valley of the Tula region. Future work includes petrographical analyses to identify the origins of the chert used to manufacture the Tula and Chichén bifaces.

Important elite elements in the costumes of some Toltec noble warriors in the processions are the dorsal disk or *tezcacuitlapilli* and butterfly breastplates, which are associated with solar events and the souls of elite warriors. In the Hall 2 of the Burned Palace two turquoise mosaic disks with distinct designs have been excavated (Cobean and Mastache 2003: 56-57; Cobean, Jiménez and Mastache 2012), which appear to be similar to disks on the backs of the *atlante* sculptures on Pyramid B, each with four fire serpents (*xiuhcōatl*). Both the dorsal disks and the butterfly breastplates, which the atlantes and the procession figures display, emphasize the relationship between the warriors and Quetzalcōatl.

Benches in Tula and in México-Tenochtitlan.

As a comparative reference, we should mention benches located in the Aztec capital, Tenochtitlan, found at the Casa de las Águilas, which borders the Templo Mayor of México-Tenochtitlan. These benches were constructed and later buried during the reign of Motecuhzoma

Iluicamina (CE 1440-1469) (López Luján 2006: I: 53). As Mastache, Cobean and Healan (2002: 114, fig. 5.29) noted, the Casa de las Águilas and its columned portico share architectural similarities with Building 4 and Vestibule 1 at Tula, including polychrome Toltec-style benches.

Leonardo López Luján proposed that the 12 benches of the Casa de las Águilas are neither exact replicas nor duplicates of the Tula benches (**Figures 19 and 20**). They are imitations of Tula's benches, but the Mexica used local materials and their own construction techniques (López Luján 2006: I: 104-105) in order to depict processions of armed individuals forming a confluence centered on a *zacatapayolli* (a ball of grass or hay braided with spines and needles which are bloodied and strung together for sacrifice rituals). These *zacatapayolli* grass balls are located at the center of each bench

altar (López Luján 2006: I: 102, 109). The twelve bench sculptures of the Casa de las Águilas were discovered between 1981 and 1997 by Eduardo Matos Moctezuma and his research team and subsequently documented and studied by López Luján. There were various objects given in offering in this sacred space, all associated with the polychrome benches (López Luján 2006: I: 53). There are also iconographic similarities between benches at Chichén Itzá and Tula, which we will not address here (see Ringle and Bey 2009: 369).



Figure 19. Bench at the Casa de las Águilas, México-Tenochtitlan. (from Matos Moctezuma 1990).

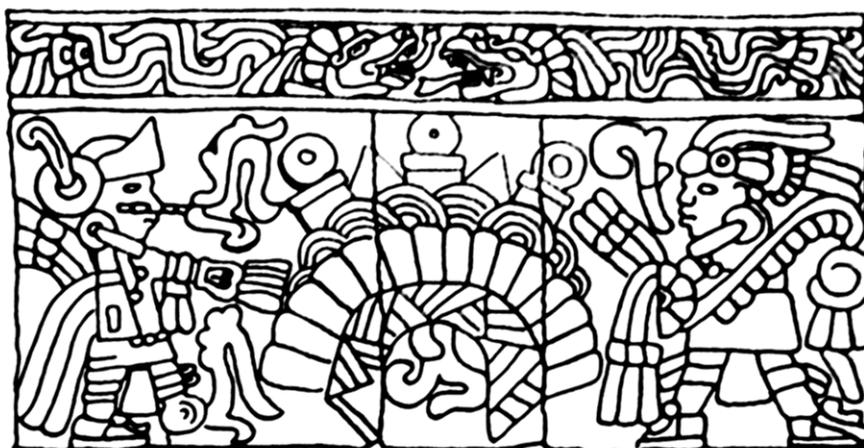


Figure 20. Another Bench from the Casa de las Águilas, México-Tenochtitlan. (from López Luján:2006:II:fig.139a).

In the Casa de las Águilas, the Mexica not only imitated the Toltec benches, but also other Toltec style objects, in addition to

bringing original sculptures from Tula, such as the basalt Chac Mool located at the edge of the Templo Mayor in the foundation of the Marquis de Apartado palace (López Luján and López Austin 2009: 402). During 19 field seasons in Tula, Acosta (1956-57) uncovered significant Aztec presence, including numerous Aztec offerings in Tula Grande, and evidence of Aztec excavations in various sectors of the ancient city, probably with the intent of searching for Toltec ceremonial objects.

Eduardo Matos Moctezuma (1990: 190) observed that Tula-style benches were incorporated into several rooms of the Casa de las Águilas. One of the entrances presented two large (approximately 1.9 m high) ceramic sculptures of eagle warriors, each placed on a bench. One of the hallways in this building contains two full-sized ceramic sculptures of human skeletons. Within the rooms, six large Tlaloc effigy ceramic braziers were found, with tears in their goggle eyes, and a general shape and iconography very similar to that of the Early Postclassic weeping Tlaloc braziers found at Tula.

The Casa de las Águilas has also been called the “Recinto de los Caballeros Águila” (Precinct of the Eagle Knights). This major large Mexica architectural complex is well documented archaeologically. Its construction materials and context, and its well preserved inventory of sculptures (the eagle knights and the skeletal figures), the decorated benches

General Comments

The processions depicted on the sculpture of the sacred precinct of Tula constitute a kind of portrait of the ceremonies or rituals that the warrior elite performed in the heart of the city.

showing warrior processions, among other elements, perhaps indicate that this building was a meeting place for various activities of this military order (Matos 1999). The skeleton sculptures in the Casa de las Águilas are equivalent to the skinned and butchered individuals represented in the Coatepantli reliefs in Tula, while eagle warriors also are present at Tula in the reliefs decorating the pillars on Pyramid B.

López Luján (2006: I: 110) proposed that the personages on the Tula benches are in procession towards a ceremonial object similar to the *zacatapayolli* on the Casa de las Águilas benches; however, at Tula the only *in situ* central representation found is that of a warrior or king surrounded by a feathered serpent in Building 4. According to López Luján (2006: I: 115) the Mexica imitated the Toltec benches to highlight an archaic or ancient aesthetic in the decoration at the Casa de las Águilas, establishing ties with Tula as the famous city of Quetzalcoatl. We propose that the Mexica architectural plan (which is similar to Tula even in the placement of the two stairways of Tula’s Vestibule 1) indicates that all of the construction found at the Casa de las Águilas, the benches and the objects in the offerings, were created specifically in order to reconstruct part of the Mexica historical past, thus paying homage to its Toltec heritage and, by extension, to the cultural interests of the tlatoani Mexica Motecuhzoma Ilhuicamina.

Processions 1 and 2 left Hall 2 of the Burned Palace in order to emerge from Vestibule 2, which connects with the Central Plaza. In contrast, Processions 3 and 4 entered Vestibule 1 from the sides of Pyramids B

and C in order to advance and concentrate at the base of the stairway providing access to the temple of Pyramid B. And in Processions 5 and 6 of the Altar of Building 4, the individuals are associated with a warrior surrounded by a feathered serpent.

Given that the iconography always presents war-like themes, it is likely that these processions which included individuals who participated in events such as military conquests, glorifying the warrior class at Tula, who would parade with their weapons, insignias, rich costumes, jewels and feathers before the public gathered in the principal plaza. The feathered serpent is depicted around various individuals – crowning them, guiding them, or even carrying them and transporting them; the feathered serpent is the most important icon of Tula associated with warriors. Blas Castellón demonstrates that the attributes of Quetzalcóatl were appropriated by culture heroes such as the Mixtec personage 9-Wind, who in the Vienna Codex (p. 48) receives the costume of the wind god, and descends to earth (Castellón 2002: 29). At Tula all the individuals represented in the sacred precinct are probably some type of hero, some historical and some mythical, or a combination of both, like the individuals who travel on serpent canoes, possibly looking for conquests to obtain tribute and to extend the dominion of the feathered serpent.

At Tula, we observe two lines of processions which convergew at points of exit or meeting, each headed by warriors. The processions placed on the east side have ties with Tlaloc, and those on the west possibly have ties with Ehecatl-Quetzalcoatl. The warriors with attributes of the god Tlaloc wear goggles, a breastplate with fringes, Type Q earspools, or sometimes goggles and skirt-like costumes

made of paper strips or panels. We call them “Tlaloc-Warriors.”

The warriors who carry feathered batons or staffs are placed on the west side both in Hall 2 of the Burned Palace and in the Frieze of the Lords. Hugo Moedano (1947: 133) proposed that this frieze depicts lords, warriors, or leaders of conquered peoples and allies of Tula. In contrast, Cynthia Kristan-Graham (1989: 274-275; 1993: 3-4) considered the individuals depicted in this frieze to be merchants who are participating in trade-related rites. We believe that these lords were warriors with ties to Ehecatl-Quetzalcoatl, possibly associated with merchants as Kristan-Graham proposed. She also identifies the possible existence of decorative or iconographic programs paralleling the development of Tula as an important center of long distance trade during the Early Postclassic, further arguing that the Toltec merchants were prototypes for the Mexica *pochteca* merchants. The personages in the Frieze of the Lords, and the other lords depicted in the rest of Vestibule 1, surely were the most important individuals of the Toltec nobility, such as priests, warriors, captains, and governors of neighborhoods, who when dressed with their weapons and insignias demonstrated their sacred ties with Quetzalcoatl and Tlaloc. During the Toltec period these deities had strong influence throughout Mesoamerica and were related to trading activities and warfare.

Ceramics were among the commodities that the Toltecs traded. For example, among the imported ceramics in Tula, the key type was the lead-colored Plumbate ware from the Soconusco region (the Pacific coast of Chiapas and Guatemala), and in lesser amounts pottery from the Gulf lowlands (the Huasteca, Veracruz), from the Maya region, and from

Central America (Costa Rica and Nicaragua: types of Papagayo or Nicoya types) (Cobean 1990: 475-492.)

Cacao was more important than imported ceramics. The ancient Mesoamericans used cacao as a kind of currency, as well as a luxury drink. The region where Plumbate pottery was produced has been famous for its cacao since the 16th century CE, but it was a prime

cacao growing area for centuries before. The metallic-poled Plumbate vessels found in Tula probably arrived there full of cacao beans (Diehl, Lomas and Wynn 1974: 187).

The following description of how the *tlatoani* Ahuítzotl received the traders after they had conquered distant lands is very suggestive (Sahagún 1985: 490-491):

[...] he ordered that they be received with great solemnity; many satraps and other ministers of the temples went to receive them, and many of the principals of México and many of the nobles, also went.

The satraps brought incense and perfumes which they used as incense, along with shell trumpets which they used to play in the temples...

They walked along the road as if in procession in two files, one for the priests and the other for the nobles, these merged together in the town of Acachinanco [located south of downtown Mexico City, near San Antonio Abad], and when they merged together, they began to burn incense and other perfumes, doing this with great reverence, as was done in older times, ... they came organized along all of the road in front of them; and all the neighboring people of the road came out of their homes to see this great marvel.

And since they arrived in Mexico, none [of the recently arrived] went to their own homes, but instead went directly to the house of the lord Auitzotzin, and when they entered in the patio of the palaces, they began burning many perfumes in the hearths which were made for this, to honor the gods, where the lord Auitzotzin received them with great honor, and he spoke to them in this manner: "My beloved, merchants and traders; you are very welcome here, repose, and rest."

Afterwards they were taken to the hall of the most eminent and generous men, where in terms of their importance they were seated according to what they deserved based on their deeds; there being also a place where lord Auitzotzin would have sat; later the merchants put before him all of the holdings which had [formerly] been used by their prisoners of war.

Having done this, one of the merchants began speaking to the lord [Auitzotzin] saying [...] "our lord [...] your uncles the pochteca who are here put our heads and lives at risk, and we have worked night and day; even though we look like and call ourselves merchants, we are captains and soldiers, who by cloaking ourselves we go to conquer, and we have worked and suffered much in order to achieve these things that were not ours, but by war and with much work we achieved them."

Hearing this, the lord answered them saying: "My uncles, you have suffered from many things, you have done many labors, like brave men; it was the will of our lord Huitzilopochtli, god of war, that you came through successfully in what you attempted and that you have returned healthy and alive as I now see you [...] I give you permission to recognize your achievements because you deserve this."

This done, afterwards the lord sent them many valuables to show his thanks for their good works; he also gave them very fine cloths of diverse styles and richness, many rich *maxtles*; he also gave each merchant a load of cloths made of *tochponecáyotl*, and to each he gave a hanega¹ of maize and another of beans, and a measure of chia [...] (Sahagún 1985:490-491).

Shortly before the Conquest, the merchants of Tlatelolco also called “cloaked captains and soldiers dressed like merchants, roamed over all regions which border and make war on provinces and peoples.” When the lord of México wanted to send the merchants “who were dissimulated captains and soldiers, to a province to make trenches”, he spoke to them concerning what he wanted them to do. He gave them “1,600 pieces of cloth which they called *quachtli*”²; after receiving this, they went to Tlatelolco, there the merchants of México and the merchants of Tlatelolco met in order to discuss the business that the king had commended to them (Sahagún 1985:492).

In Tula, it is possible that Hall 2 of the Burned Palace, and other exclusive locales were spaces for meetings of warriors and merchant-warriors who were received or instructed by the tlatoani of the city, either because they had just arrived to the city, or because they were initiating a new journey to distant lands. The warriors who were dedicated to Tlaloc seem to have been tasked with obtaining prisoners for sacrifice. The lords who used feathered batons with few weapons were merchant-warriors, possibly under the tutelage of Quetzalcoatl or Ehecatl-Quetzalcoatl. We tentatively refer to them as “Warriors-Ehecatl-Merchants”.

Of all the individuals depicted on the benches, only two warriors have feathered serpents behind them with vertical undulating bodies, highlighting their religious importance. These captains, warriors of highest rank or “in general” are depicted in reserved spaces. The personage

in Room 4, together with a few other warriors, would exit Hall 2, and enter the vestibule that connects with the Central Plaza of the precinct. The individual in Building 4 would have more direct access to the same vestibule that connects to the Central Plaza.

With different ranks and patron deities, the warriors possessed two types of serpents as guides and protectors: some were completely plumed and others had a mixture of plumes and bisected conch shells. There are similar serpents on the serpentine columns of Tula and they are depicted at Xochicalco. The existence of a relief with warriors with bisected conch shells above their heads instead of plumed serpents supports the idea of warriors having ties to the wind god.

To date, at Tula no equivalent of the *zacatapayolli* seen at the Casa de las Águilas has been found; thus we consider this representation to be an innovation of the Mexica. The depictions of large basins at Tula do not appear to be located in a central place where processional files of individuals converge. In the basins, the presence of round yellow objects, the reeds, and the inserted feathers, and also the volute elements could indicate the burning of offerings over balls of copal. We cannot be sure that the basins served as receptacles or deposits of reeds that were stained with blood from sacrifices, or from autosacrifice. If this is true, the places where we found benches and depictions of processions were also places for some form of sacrifice or autosacrifice.

The halls of the Burned Palace of Tula where benches are located, such as Hall 2, probably functioned as council rooms, meeting places, or even centers of administration and ritual cult, but not as living areas for the rulers of Tula and their families. On the other hand, it is very possible that high officials and some leaders of Tula occupied these benches during administrative meetings (Cobean and Mastache 2001: 173). In addition, the halls would have been used for meetings of warriors, captains, priests, and merchants who arrived in or left Tula, where matters related to the economic, political or military life of the city were discussed.

We have demonstrated the possibility that some processions at Tula were inspired by an emblem of Ehecatl-Quetzalcoatl, bisected conch shells. In contrast, the presence of who were transported by serpents simulating canoes and surrounded by great feathered serpents, leads us to propose the existence of a fourth group of mythic processions, made up of “Mythic Warrior Serpents”.

For processions that exited from Hall 2 and Building 4, and others arriving at the Tula Grande precinct, all could converge in the vestibules, where the warrior class of Tula must have participated in the rites, songs and ceremonies that gave cohesion to Toltec society. Young and old warriors were commanded by renowned leaders, as we

have named the “Tlaloc Warriors” and “Ehecatl-Merchant Warriors.” The warrior elite presented their weapons and sacred warrior insignia to the people gathered in the principal plaza of the precinct, the heart of the city, after arriving from distant lands, or when they were departing to conquer peoples and obtain tribute, and prestige.

The feathered serpent was a rattlesnake covered with plumes on its back, a feather crest on its head, and a bunch of feathers on its tail rattles, and it was the icon of the god Quetzalcoatl. In a humanized version, he was represented as a man emerging from the gullet of this mythical animal, and he was converted into a critical source of political legitimization based on divine power (Castellón 2002: 31).

Perhaps since the end of the Classic period in Mesoamerica (CE 900), the divine nature of the feathered serpent began to be incarnated by powerful elites who assumed its attributes. This process served to found noble dynasties for many groups, via historical personages who were a mixture of priests and rulers, whose achievements were partially historical and partly mythological. The feathered serpent accumulated multiple meanings, perhaps more than any other divinity. The ancient peoples not only associated this being with the earth and its fruits, but also it was considered it a source of life, and a symbol of legitimacy and power of rulership (Castellón 2002: 29-33).

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Notes

¹ Hanega or fanega: a measure of variable capacity for grains, which generally is equivalent to 55 liters (Acuña 1984:305).

² *Quachtli*: a large cotton cloth (Molina 1992:84).

Jiménez García, Elizabeth and Robert H. Cobean

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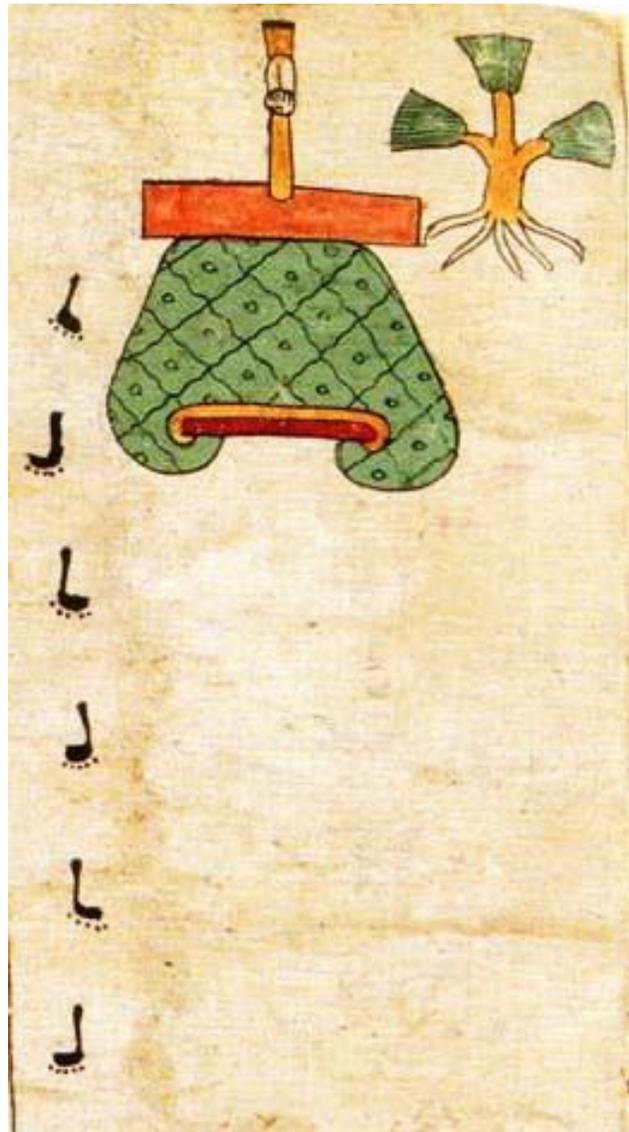
Processions and Aztec State Rituals in the Landscape of the Valley of Mexico

Johanna Broda

This article explores the dimensions of geography, territory and ritual landscapes in the Valley of Mexico during Aztec times (15th and 16th centuries AD). It applies an interdisciplinary perspective combining anthropology, ethnohistory, archaeology, cultural geography and archaeoastronomy to reconstruct Aztec vision of place that transformed the Basin of Mexico into a sacred geography where lakes and mountains, volcanic landscapes, rocks and boulders, temples as well as towns and settlements of other ethnic groups were reinterpreted by the Aztecs according to their *cosmovisión*. This geography was the stage for the performance of ritual dramas enacted by the Aztec state (**Figure 1**). Processions and other ritualized acts in the natural as well as the built environment formed an important part of the Aztec calendar festivals; they usually were integrated into larger rituals.

By *cosmovision*, I mean the structured view by which ancient Mesoamericans combined their notions of cosmology into a coherent whole situating the life of man within this cosmic order. This view implied the observation of nature, but it also related the cosmos to society and to the state.

Figure 1. Pathway of the priests after kindling New Fire at Huixachtecatl, Cerro de la Estrella (*Codex Borbonicus*, p. 34, detail).



Ideology, on the other hand, denotes a system of symbolic representation that serves to legitimize the existing order of society (Broda 1987a, 1991a, 2012). In this article I analyze several examples of how Aztec *cosmovisión* related to their political ideology. In particular, I will refer to the dynamic contrast between adopting Tlaloc rituals and landscape to help the Aztecs identify with their Toltec heritage versus the rituals and landscapes where they sought to

establish a connection with their Chichimec heritage, hunting and warfare. Here, we have one of the very rare examples in the case of Ancient American civilizations where the ethnohistorical information on the performance of ritual can be directly connected to geography and to the existence of archaeological sites that, however much reduced today in their remaining material testimony, may still transmit a concrete vision of place (**Figure 2**).



Figure 2. The Basin of Mexico with its lakes and mountains, on the eve of the Spanish Conquest. Sites nos. 1-32 were studied by Broda (2001a). (Map based on J. Parsons, adapted by A. Robles).

The point of departure for this project is the ethnohistorical study of 16th century sources (chroniclers and pictorial documents), in the case of my year-long research it was the starting point for this interdisciplinary work. We may ask ourselves, what do these historical sources tell us about the ritualized use of space and the *cosmovisión* it implied, and how are we going to interpret these data? My approach to the study of Aztec ritual and society has been to use the descriptions by the chroniclers as *emic* data and apply to them

an analysis and interpretation in terms of anthropological concepts, i.e. to reconstruct a material that can be further analyzed by an interdisciplinary approach.

The vague year of 365 days (*xiuhmolpilli*) provided the basis for the ritual as well as civil and agricultural calendar of the Aztecs. It consisted of 18 monthly periods of 20 days each (thus their Spanish name, *veintena*), with a remainder of 5 days (**Figure 3**). Within each monthly period the Aztecs celebrated one of their major calendar festivals that were combined with ceremonies that ran throughout the whole year.

The 16th century chroniclers grasped a glimpse of this elaborate ritual structure, fray Bernardino de Sahagún and fray Diego Durán still had access to eyewitnesses of these grand ceremonies; these informants described certain selective aspects to the friars in surprisingly precise details. It is much more difficult to interpret the evidence of the pictorial documents and, in fact, only very few of them specifically depict certain selective images that symbolize the 18 calendar festivals. They can only be interpreted after a thorough study of the detailed descriptions in Nahuatl and Spanish provided by Sahagún, Durán, Motolonia, the *Tovar Calendar* and a very few other early sources.¹ In this study, I comment on four of these monthly ceremonies belonging to: I *Atlcahualo* (the first month of the Aztec year); IV *Huey tozoztli*; VI *Etzalcualiztli*; and XIV *Quecholli*.

Figure 3. Correlation of the 18 months of the *xiuhpohualli* Aztec calendar, according to Sahagún, (CF Bk. II).

| Meses prehispánicos y fiestas correspondientes | Correlación cristiana (fechas gregorianas) |
|--|--|
| <i>atlcahualo</i> | 12 de febrero-3 de marzo |
| <i>tlacaxipehualiztli</i> | 4 de marzo-23 de marzo |
| <i>tozozontli</i> | 24 de marzo-12 de abril |
| <i>huey tozoztli</i> | 13 de abril-2 de mayo |
| <i>tóxcatl</i> | 3 de mayo-22 de mayo |
| <i>etzalcualiztli</i> | 23 de mayo-11 de junio |
| <i>tecuilhuitontli</i> | 12 de junio-1 ^o de julio |
| <i>huey tecuilhuitl</i> | 2 de julio-21 de julio |
| <i>tlaxochimaco-miccailhuitontli</i> | 22 de julio-10 de agosto |
| <i>xocotlhuetzi-huey miccailhuitl</i> | 11 de agosto-30 de agosto |
| <i>ochpaniztli</i> | 31 de agosto-19 de septiembre |
| <i>teotleco</i> | 20 de septiembre-9 de octubre |
| <i>tepeilhuitl</i> | 10 de octubre-29 de octubre |
| <i>quecholli</i> | 30 de octubre-18 de noviembre |
| <i>panquetzaliztli</i> | 19 de noviembre-8 de diciembre |
| <i>atemoztli</i> | 9 de diciembre-28 de diciembre |
| <i>títitl</i> | 29 de diciembre-17 de enero |
| <i>izcalli</i> | 18 de enero-6 de febrero |
| <i>nemontemi</i> | 7 de febrero-11 de febrero |

Basado en fray Bernardino de Sahagún, *Historia general de las cosas de Nueva España*, libro II.

Child sacrifices in petition for rain

I *Atlcahualo-Quauitl eua* (12 February – 3 March): first month

During this month, corresponding to February, child sacrifices were brought to the rain deities as a petition for rain. These children represented the rain gods and were imagined as small beings magically related to the growth of the maize plant. The child sacrifices were called *nextlahualli*, “the debt payment.” The rain cult was a mountain cult and may be understood in terms of Aztec

cosmovisión. Mountains –so abundant in the geography of Mesoamerica- were sacred places. They were imagined to be receptacles where the water was kept during the dry season to be let loose when the rains started. One of the main deities worshipped by the Aztecs was Tlaloc, god of rain, mountains and the earth.

According to Sahagún,

“In this month they slew many children; they sacrificed them in many places upon the mountain tops...in honor of the gods of water, so that they might give them water or rain. The children whom they slew they decked in rich finery to take them to be killed; and they carried them in litters upon their shoulders. And the litter went adorned with feathers and flowers. The priests proceeded playing [musical instruments], singing, and dancing before them. When they took the children to be slain, if they wept and shed many tears, those who carried them rejoiced, for they took [it] as an omen that they would have much rain that year” (CF II: ch. 1: 1,2.)

In chapter 20 (CF II: 43,44), Sahagún describes these ceremonies in even greater detail. Because of the extraordinary interest

of this information, I quote this passage in its full text.

In the chronicler’s own words,

“And they took [the children] to many [different] places. [First was] Quauhtepec. And the one who died here bore the same name –Quauhtepetl. His paper vestments were brown. The second place where one died was the top of Mount Yoaltecatl. The human banner [the child to be sacrificed] had the same name –Yoaltecatl. His paper vestment was black striped with red. The third place was Tepetzinco, where died a girl called Quetzalxoch, a name which they took from Tepetzintli, [also] named Quetzalxoch. Her array was blue. The fourth place was Poyauhtlan, just at the foot and in front of Mount Tepetzinco. The name of him who died was Poyauhtecat. Thus he went adorned: he was bedight in rubber, stripes of liquid rubber. The fifth place, there in the midst of the lake, was a place named Pantitlan. He who died there had the name Epcoat. The vestment in which he went, having put them on, were set with mussel shells. The sixth place to which they carried [a victim] was the top of [the hill of] Cocotl, and also he went bearing the name of Cocotl. His array was varicolored –part red, part brown. The seventh place was on the

summit of Yiauhqueme, and also the human banner bore the name of Yiauhqueme. The clothing which he bore was completely brown.

These were the places where [the children] died, as blood-offerings, as human banners.² And all went with head-bands, with sprays and sprigs of quetzal feathers; they had green stone necklaces, and they went provided with green stone bracelets; they provided them with bracelets of green stone (*chalchiuhuitl*). Their faces were painted with liquid rubber, and spotted with a paste of amaranth seeds. And their liquid rubber sandals: they had sandals of liquid rubber. All went in glorious array; they were adorned and ornamented; all had valuable things on them. They gave them paper wings; wings of paper they had. They were carried in litters covered with quetzal feathers, and in these [the children] were kept. And they went sounding flutes for them.” (CF II: 43,44)

This uniquely detailed description provided by Sahagún can be complemented by the references of Diego Durán and a few other chroniclers, and also by the pictorial records of the *Primeros Memoriales* of Sahagún and the *Codex Borbonicus*; all of them refer to the Basin of México and adjacent areas (**Figure 4** and **Figure 5**). The codices clearly depict the processions of priests carrying the children to the mountaintops

where they were sacrificed. The above-mentioned attire of the children, with their insignia, was significant and related to the symbolism of water and the sprouting of plants. The latter is also represented by the so-called “poles of greenness and sprouting”, poles that were carried by the priests in the processions (**Figure 6**). These poles (*cuenmantli*) as well as the paper banners dotted with liquid rubber

(*amatetehuitl*) that were tied to the poles, were magical instruments to conjure the coming of the rains. The children themselves were called *tlacatetehuitl*, “human banners” (Sahagún CF II: 42).

This information of the 16th century sources can be interpreted in terms of Aztec *cosmovisión*.



Figure 4. Aztec child sacrifices during I *Atlcahualo*: procession of priests with the child proceeds towards the mountain shrine (Sahagún, *Primeros Memoriales*, fol. 250r.).

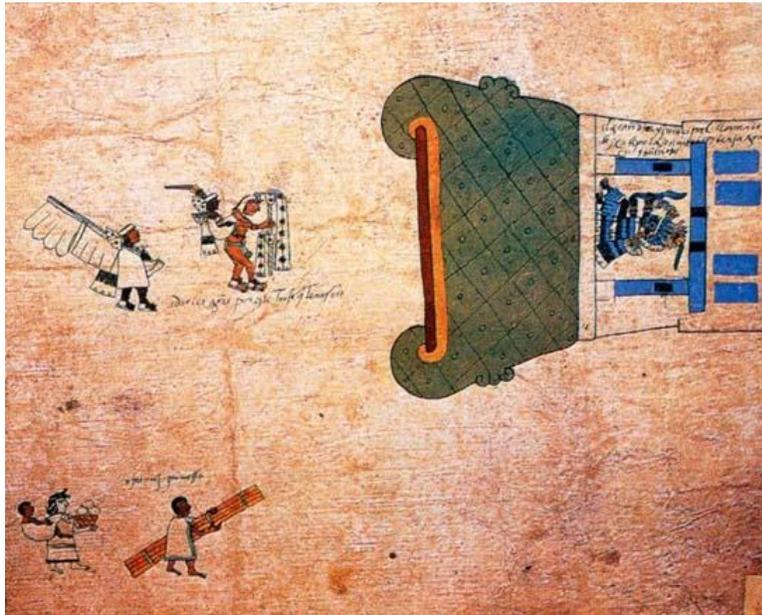
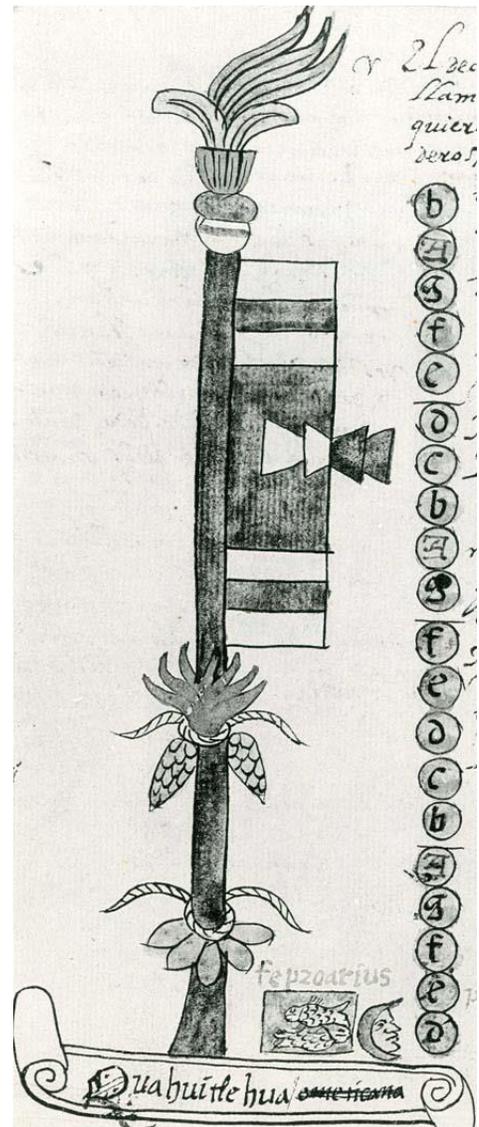


Figure 5. Aztec child sacrifices during IV *Huey tozotli*: procession of priests with the child proceeds towards the interior of the mountain (Codex Borbonicus, p. 24).

Figure 6. The sacred banner (*cuenmantli*) as the symbol of the month of I *Atlcahualo-Quahuitlehua* (Tovar Calendar, pl. XIV) (Archive J. Broda).



I have explored the multiple dimensions of the Aztec cult of rain, water, mountains, earth and sacred stones and published the results extensively.³ In this paper, however, I focus on the way these ceremonies relate to the territory and ritual landscape of the Basin of México. By “*ritual landscape*” we understand the *culturally, i.e., historically transformed natural landscape in which there existed sanctuaries and local shrines where certain ceremonies were performed periodically*. It was the ritual process that created this sacred landscape.⁴

As we have seen, Sahagún (CF II, ch.20) indicates the name of seven places where the children were sacrificed, the majority of them being mountain tops (**Figure 7**). The localization of these places through fieldwork in the geography of the Basin and the interpretation of maps proved highly significant (Aveni 1991; Broda 1991b, 2001b). The seven places of sacrifice were situated, following the cardinal directions, along the shore of the lake, with Tenochtitlan at the center (**Figure 8**).

I Atlcahualo: Child Sacrifices and the Mountain Cult

| Cardinal Direction | Place-Name | Child Sacrifice |
|--------------------|---|--|
| N | Quauhtepetl | Dressed in red color; name of the child: Quauhtepetl |
| N | Yoaltecatl | Dressed in black/red; name: Yoaltecatl |
| C (E) | Tepetzintli | Dressed in blue; name: Quetzalxoch (female) |
| C (E) | Poyauhtlan, to the E of Tepetzintli (there was an ayauhcalli) | Dressed in paper garments with stripes of rubber; name: Poyauhtecatl |
| C (E) | Pantitlan | Garments adorned with shells; name: Epcoatl |
| SE | Cocotl | Dressed in red/yellow; name: Cocotl |
| W | Yiauhqueme | Dressed in yellow; name: Yiauhqueme |

Figure 7. I Atlcahualo: Child sacrifices and the Mountain Cult, according to Sahagún, CF II (Broda 1991b).

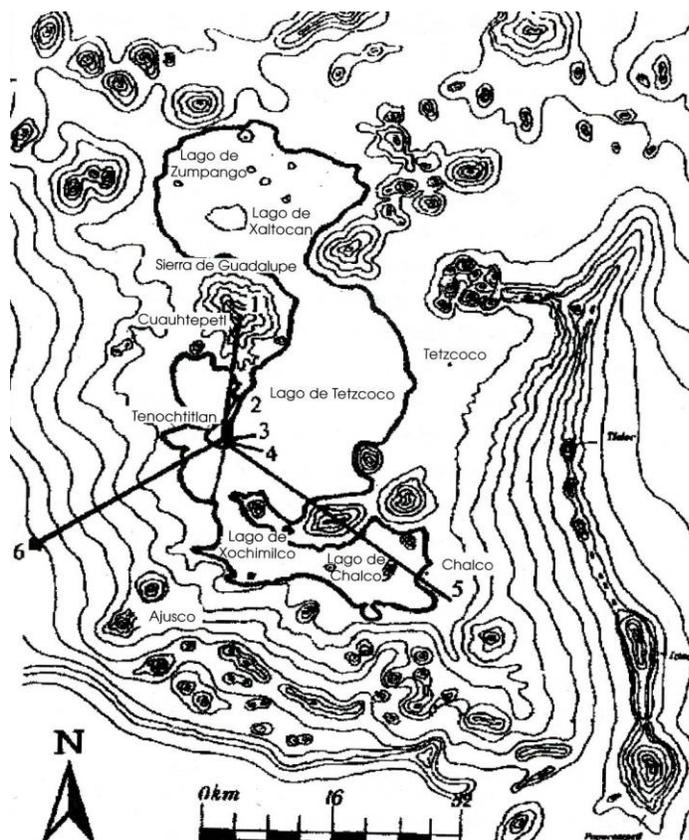


Figure 8. I *Atlcahualo*: Directional symbolism of child sacrifices, a cosmogram. 1.- Quauhtepetl to the north of Tenochtitlan. 2.- Yohualtecatl, north. 3.- Tepetzintli, center-east. 4.- Pantitlan, center-east. 5.- Cocotitlan, south. 6.- Yauhqueme, west. (map based on J. Parsons, adapted by J Broda)

Two of these places formed part of the big northern sierra, the Quauhtepetl (today Sierra de Guadalupe); one (Yauhqueme) was an important peak within the western range of mountains – the Sierra de las Cruces. At the southeastern fringe of the southern lake region, Cocotl was a conspicuous small mountain in the territory of Chalco Atenco. To the east, at the very heart of the central lakes, were three places: Tepetzinco, Poyauhtlan, and Pantitlan. They delimited an eastern demarcation separating, perhaps, the domains of Tenochtitlan from those of Tetzaco. The plotting of these places on a map showed that they roughly formed a cosmogram denoting the northern, western, southern and eastern direction, with the Templo Mayor of Tenochtitlan at its center (Broda 2001b: 301). At most of these places

the remnants of Aztec shrines can still be perceived today, although unfortunately they have never received excavation or restoration.

The processions that led the children to their place of sacrifice consisted of priests that belonged to the hierarchy of the official priesthood and thus acted on behalf of the state. These ceremonies expressed the role of the Aztec state to provide cosmic harmony and guarantee the coming of the rains, the growing of crops and the well being of its subjects, the common people (*macehualtin*). At the same, these processions and rituals conveyed the message that the Mexica state was taking ritual possession of shrines and territories that formerly had belonged to other ethnic groups who were conquered by the Aztecs in the course of the 15th century.

IV Huey tozoztli (13 April – 2 May): Mt. Tlaloc and Pantitlan

During the month of IV Huey tozoztli, the Aztec ruler (*huey tlatoani*) himself participated in the cult of rain and maintenance. The cycle of child sacrifices culminated at the end of April, during IV Huey tozoztli, in the grand royal celebration in petition for rain that took place at the sanctuary situated at the summit of Mt. Tlaloc. On this occasion, according to Diego Durán, the rulers of Tenochtitlan, Tetzaco and Tlacopan with all their nobility,

ascended in pilgrimage to the sacred mountain to make sumptuous offerings that included the sacrifice of one or more male children (Broda 1971, 1991a, 2001b; Townsend 1993).

Another fundamental element of IV Huey tozoztli was its twofold complementary nature –consisting of a mountain as well as a lake festival. While on Mt. Tlaloc a male child was sacrificed, the ceremonies in the lake culminated at Pantitlan with the sacrifice of a girl dressed all in blue to represent the lake. Pantitlan, the dangerous drain or whirlpool in the middle of the lake, was considered an entrance “into” the subterranean waters that connected the lakes of the Basin with the sea, as well as being linked to the annual cycle of the rains (Durán 1977, ch.VIII; 1990, vol.2, ch. VIII: 399-400) (Figure 9). In this context it should be remembered that at the Templo Mayor the Aztecs buried, at the base of the double pyramid, offerings that concentrated an enormous amount of marine animals in order to symbolize and conjure the absolute fertility of the sea (Broda 1987a, 1987b).⁵

As mentioned above, Pantitlan also was a place of sacrifice during the first month of I Atlcahualo (Sahagún CF, II: 42). The male child that was sacrificed on this occasion received the name of Epcoatl and his garments were decorated with shells, apparently a clear reference to the sea.

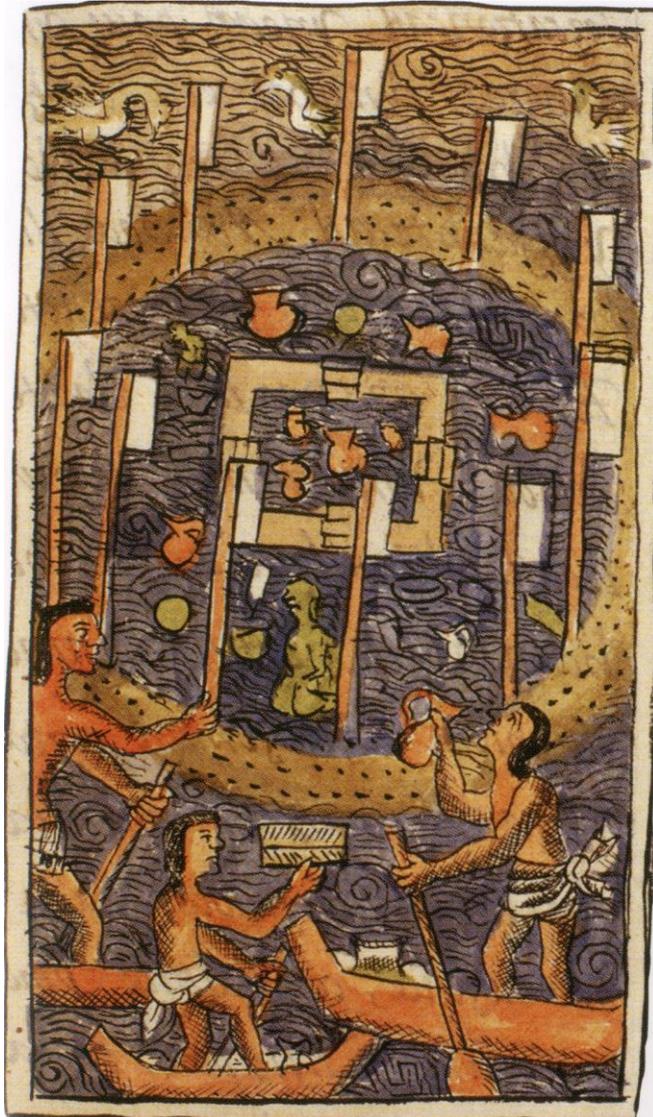


Figure 9. Pantitlan, the dangerous whirlpool of the lake (Sahagún, CF, Bk.I, fol. 23r.).

On the other hand, also during I Atlcahualo, at near-by Tepetzintli, the conspicuous small island in the middle of the lake, a female child called Quetzalxoch was sacrificed. The girl was dressed all in blue as a representation of the waters of the lake. In this context a myth has been preserved that establishes a reference to the Aztecs' rise to power within the Valley of Mexico and their claim to assume the heritage of the Toltecs by means of this sacrifice. In an earlier study I have commented in detail on this myth and proposed that it contained a political message regarding the transmission of power from the Toltecs to the Aztecs, the claim of the Aztecs to be the heirs of the Toltecs (Broda 1971: 258, 276).

At Tepetzintli there also existed an *ayauhcalli* (a “mist house”) – a shrine

VI *Etzalcualiztli* (23 May – 11 June)

Pantitlan was again visited during the month of VI *Etzalcualiztli* corresponding to June, when the onset of the rainy season was celebrated. The month was dedicated to



dedicated to the rain gods - where the *huey tlatoani* (the supreme ruler) arrived personally on several prescribed dates to perform penitential rites in honor of the rain gods. There, as we have seen, a male child named Poyauhtecatl was sacrificed during I Atlcahualo, at the same time as the children Epcoatl and Quetzalxoch were offered at Pantitlan and Tepetzintli (cfr. *Table I*). Tepetzintli, doubtlessly, was a very important rocky outcrop situated at the center of the lakes; probably at the very point that separated the sweet waters of the lake of Mexico from the salty waters of the lake of Tetzaco. Nearby passed the “dike of Netzahualcoyotl” (el *albarradón* de Netzahualcoatl) that separated the domain of Tenochtitlan from that of Tetzaco

Tlaloc, the rain god and his consort, Chalchiuhtlicue. After the sacrifice of the impersonators of these gods at the Templo Mayor, the priests (*tlamacazque*) deposited their hearts in the *mixcomitl*, “the cloud vessel”; other offerings they prepared were the sacred banners (*tetehuitl*), the “cloud face cape” (*tilmatli aiahuixo*), green stones (*chalchihuitl*), quetzal feathers as well as several copal figurines (*copalteteo*). Carrying these sacred offerings dedicated to Tlaloc, the priests proceeded to a place called Tetamazolco situated on the edge of the lake. There they embarked on a large canoe driven by poles. These oars were painted blue and covered with liquid rubber (*ulli*) (Sahagún CF, II: 84) (**Figure 10**).

Figure 10. VI *Etzalcualiztli*: Mexica priests advancing in canoes and carrying the “cloud vessel” filled with human hearts to Pantitlan (Sahagún, CF II, fol. 22r.).

They began to row vigorously towards Pantitlan, and there their canoe entered a precinct within the waters marked by poles (*cuenmantli*) (see Fig. 9). While the priests blew their shell trumpets, the *tlenamacac* (the fire priest) arose by the prow of the canoe lifting the cloud vessel filled with hearts high up and then hurled it into the midst of the whirlpool; this provoked the waters to become rough and agitated, waves and foam rising in great fury. Finally, they tied the sacred banners (*tetehuitl*) to the poles (*cuenmantli*) that

surrounded Pantitlan, fixing some green stones on them. Other chalchihuites were “cast, scattered, and strewed upon the face of the water”. When the canoe began to retreat from the enclosure of the whirlpool, the *tlenamacac* deposited four sacred paper banners in his incense burner and set fire to them. Lifting the incense ladle with the burning paper banners high up into the air, he hurled them into the whirlpool. Then the priests returned to the shore. When they reached Tetamazolco, it was the moment of sunrise. (CF, II: 84, 85).

Aztec sanctuaries in the landscape of the Basin of Mexico

The above-mentioned historical information about sacrifices during I Atlcahualo, IV Huey Tozoztli and VI Etzalcualiztli is very detailed; *however, what really makes the interpretation of Aztec rain ceremonies so interesting, is their projection into real space. There, the anthropological interpretation of ethnohistorical sources meets with archaeology and its research into ritual landscapes.* We discover that Aztec ritual landscapes that were designed from the capital of Tenochtitlan, integrated ceremonial routes of pilgrimage that embraced the entire Basin of Mexico. As Lawrence E. Sullivan (1991; cf. Broda 1991b) pointed out, it certainly was an impressive landscape where the high mountains and the monumental imperial temple architecture were reflected in a myriad of specular [*sic*] images in the waters of the lakes. “It was an imaginal world –a world of matter and material elements, to be sure, but a material world reflected against, and reflected upon, by matter of vastly different kinds” (Sullivan 1991: 211).

The particular interest of these data on Aztec rites and pilgrimages, provided by the 16th century chroniclers, is that they can be confronted with archaeological evidence that still exists in the Basin of Mexico, despite the explosion of recent urbanization. In this perspective, let us return to the petition for rain during the month of IV Huey tozoztli corresponding to the end of April.

It so happens that the ruins of the sanctuary of Tlaloc which during Huey tozoztli congregated the rulers of the Triple Alliance with their nobility, still exist at the summit of the mountain, at an altitude of 4 120m (13,518 ft.) (**Figure 11**). Some archaeological work has been done there in recent years. The sanctuary consisted of a walled precinct and a 125m long causeway that led up to the site facing East. In its opposite Western direction, the pathway pointed towards Templo Mayor, the symbolic center of Tenochtitlan (Aveni, Calnek and Hartung 1988). Through this causeway, at dawn, the procession with the sacrificial victims advanced facing sunrise.

Figure 11. Aerial view of the archaeological site of Mt. Tlaloc showing the processional causeway (photo *Cia. Mexicana Aérofoto*, S.A. 1941) (Archive J. Broda).

The site is very interesting in terms of its astronomical alignments. From the shrine on Mt. Tlaloc sunrise can be observed behind the broad profile of the summit of the prominent volcano of La Malinche. Additionally, Mexico's highest mountain, Pico de Orizaba, also aligns behind La Malinche and in this way sunrise behind the profile



of these two important volcanoes marked with precision five days between February 7-11, just before the Aztec beginning of the year on February 12 (Iwanizewski 1994; Morante 1997).

It was possible to reconstruct the existence of a considerable number of sacred places worshipped by the Aztecs in the Basin of Mexico.⁶ These sites included ceremonial precincts and causeways, monumental carved boulders and rocks, as well as miniature models with steps and canals carved in stone, all of them apparently belonged to the mountain-and-water cult (**Figure 12**).⁷

Figure 12. “*Maqueta*” (carved boulder depicting a model of a temple) from the Sierra de Tlaloc, Tetzoco, México, D.F. (after Cook de Leonard 1955).

At Acalpixca at the shore of the Southern lake of Xochimilco, the Aztecs created a large “maqueta” on a big boulder and carved several magnificent relief stones

that can still be seen ascending the slope of the hillside; the latter probably served for pilgrimages to this site (**Figure 13**).⁸



Figure 13. Carved relief stone at Cuailama, Acalpixca (photo J. Broda).

In the natural setting of the Pedregal lava flow, today Pedregal de Santo Domingo, there existed before its recent urbanization the 12m (ca. 39 ft.) long relief

of a plumed serpent, another sacred place in the Southern part of the Valley that must have been visited periodically by pilgrims (Beyer 1924; Robles 1995) (**Figure 14**).

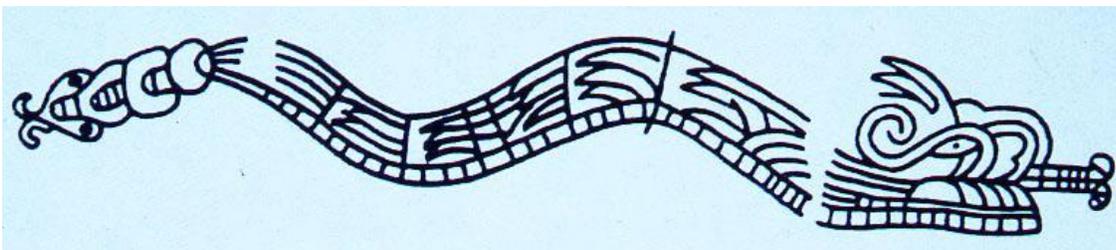


Figure 14. Drawing of relief of a plumed serpent measuring some 12 m, engraved on lava stone, Pedregal de Santo Domingo, now destroyed (after Beyer 1918) .

Most of these places of worship also show interesting alignments towards sunrise on the Eastern horizon of the Basin with the spectacular view at sunrise towards the great volcanoes Popocatepetl and Iztaccihuatl as well as Mt. Tlaloc and Cerro Papayo (Broda, Iwaniszewski and Montero coords. 2001).

This means that the Aztecs chose significant natural elevations within the Valley that could be coordinated with solar horizon observations significant in terms of the Aztec calendar and its 18 monthly festivals. These sites were visited periodically at certain calendrical dates.

XIV *Quecholli* (30 October – 18 November):

Sacred warfare of the Aztec ruler and the warriors as hunters

The Aztec sanctuary on Cerro Zacatepetl is one of the most interesting examples of this kind. Nonetheless, it involved another class of mountain worship, different from the cult of Tlaloc. Zacatepetl is situated on the southwestern fringe of the Valley of Mexico, next to the Preclassic site of Cuiculco. It is a small promontory surrounded by the Pedregal lava flow, the same that destroyed the great Mesoamerican

ceremonial and urban site of nearby Cuiculco. Due to this location, however, the sanctuary on Zacatepetl permitted to make the same solar calendrical observations as have been hypothesized for Cuiculco some 2000 years before (Broda 1991b, 2000, 2001a) (**Figure 15**).

Figure 15. The round pyramid of Cuiculco, approximately 600 B.C. (photo J. Broda).



At the conspicuous horizon line of Cuicuilco-Zacatepetl, the major volcanoes of Popocatepetl and Iztaccihuatl mark almost precisely the winter solstice, and the date of February 12 (the initial date of the Aztec calendar) respectively, while the mountain of Papayo marks the equinoxes. On the other hand, as seen from the Aztec temple of

Zacatepetl the sun rises behind Mt. Tlaloc precisely at the end of April when the rulers and nobles ascended to the sanctuary at its summit (**Figure 16**). These circumstances cannot have passed unnoticed by the Prehispanic observer situated on Cerro Zacatepetl.

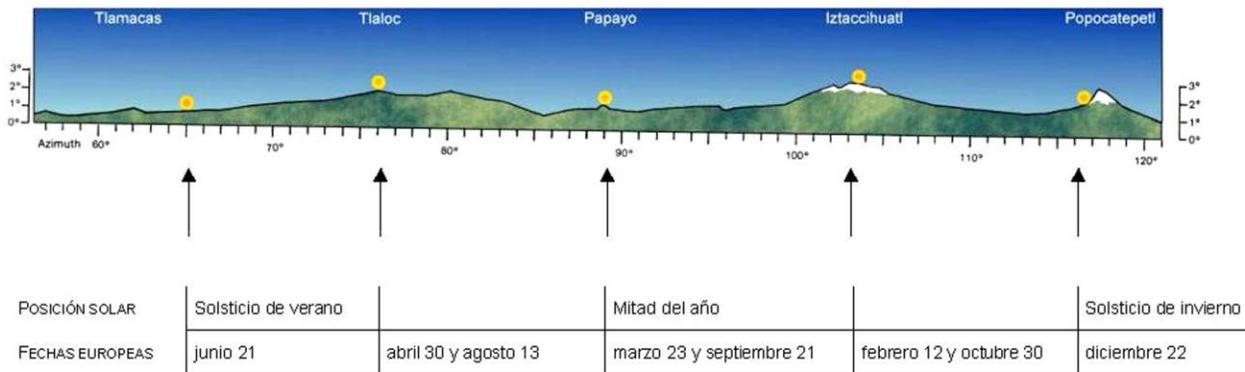


Figure 16. Horizon view from Cuicuilco pyramid, showing solar positions on key dates (after Broda 2001a: 184).

On the other hand, this small mountain had a number of other conspicuous characteristics: the natural setting of Zacatepetl consisted of dry grass vegetation (*zacate*) from where the mountain took its name. This inhospitable terrain surrounded by lava flow, seems to have evoked to the Aztecs their mythical Chichimec homeland situated to the North. This particular environment was

chosen to celebrate there the ceremonies of XIV *Quecholli* corresponding to November in the Aztec calendar. At this time of the year when military campaigns were about to start, the young and seasoned warriors prepared offerings of bundles of 20 arrows each, which they deposited at the Templo Mayor. These warriors assumed the function of hunters during *Quecholli* (**Figure 17**; **Figure 18**).



Figure 17. XIV *Quecholli*: Aztec warrior dressed as hunter with the insignia of the god Mixcoatl Camaxtli (Durán, 1990, vol. II, *El Calendario Antiguo*).



Figure 18. The god Mixcoatl as Aztec hunter (Durán, 1990, vol. II).

On the tenth day of the month, a ritual hunt in honor of Mixcoatl was to take place at “Zacatepec, there by *Ixillan tonan*” (i.e. ‘the navel of our mother’) (CF II: 126; Broda 1991b) (**Figure 19**).

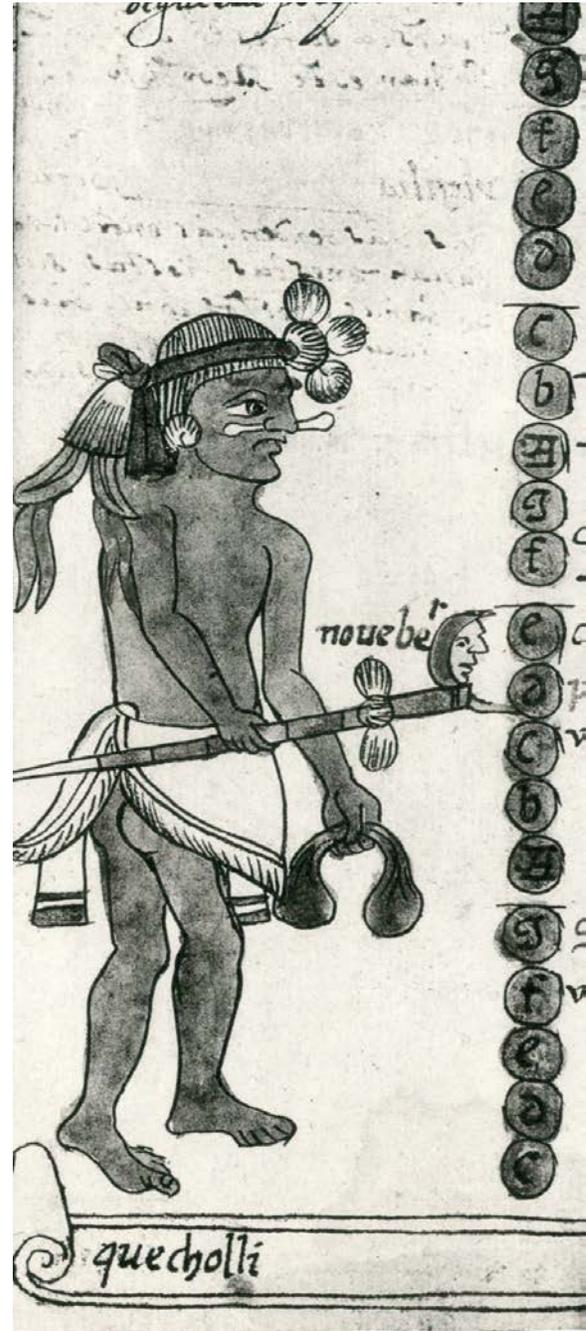


Figure 19. Aztec warrior representing the month of XIV *Quecholli* (Tovar Calendar, Pl. XI).

Zacatepetl was also a place of worship of the earth goddess in one of her varied advocations. A ceremonial path strewn with *zacate* grass was prepared that led from the town to the sanctuary; on it the hunters went in procession arrayed with the insignia of the patron deity of the Chichimec hunters, Mixcoatl (“Cloud Serpent”) (Gómez de Orozco 1945: 50) (**Figure 20**; **Figure 21**). The Tenochca as well as the Tlatelolca participated in this ritual hunt; they were joined by emissaries from the towns of Quauhtitlán, Quauhnahuac and Coyoacán.



Figure 20 (above). XIV *Quecholli*: Procession of Aztec warriors dressed as hunters proceeding from the temple of Mixcoatl (Sahagún, 1974, *Primeros Memoriales*).



Figure 21. At left, the god Mixcoatl as hunter (*Codex Borbonicus*).

The ritual hunt on Zacatepetl ended with blood-sacrifices of deer and other game as well as of several mother deities. A dramatical reference to the mythical past of the Aztecs as Chichimec hunters of the North was enacted. It also implied a reference to the origin of sacred warfare. The Aztec nobility as well as the ruler himself participated in these ceremonies and for this purpose came walking in procession all the way from Tenochtitlan. They must have crossed the lake by canoes before entering the inhospitable lava terrain that surrounded Zacatepetl.

Zacatepetl was a former territory of the Tepanec city state of Coyoacán, with Otomi and Chichimec population. Thus it constitutes an example of how the Aztecs took possession of the territories of conquered political entities within the Basin adopting and transforming these former places of worship into their own sanctuaries and attributing new meaning to these places. Thereby we discover one of the many ways in which the Aztecs became the heirs of the civilizations that had preceded them in the old cultural land of the Basin of Mexico. It makes us realize that there operated in pre-Hispanic times a historical consciousness and tradition with respect to “holy places” that became manifest in the existence of certain important sanctuaries. A

magnificent example for such a sanctuary that persisted and increased its importance after the Conquest, is the Tepeyac where the Virgin of Guadalupe is worshipped today (cfr. Broda 1991b: 88-92) However, in contrast to Tepeyac, Zacatepetl was not adopted as a sacred place during Colonial times. It remained far away from Mexico City amidst the inhospitable lava terrain; the latter was only urbanized beginning from the 1940s when the exclusive residential area of *El Pedregal de San Angel* was created.

The site of Zacatepetl with its three main structures still exists today, although in a very deteriorated condition. No restoration has been undertaken so far. It consists of the vestiges of a large plaza and the remains of

two rather large pyramid mounds as well as a third smaller mound (Parsons et al. 1982: 237, 238). The three constructions are connected by causeways that may have served for processions and rituals. The design of *pyramid, enclosure and causeways* is rather similar to the major site at the height of Mt. Tlaloc (**Figure 22**).

On the other hand, the sanctuary of Cerro Zacatepetl was aligned with another sacred mountain situated towards the western horizon of the *Sierra de las Cruces*. Its modern name is *Cerro del Judío*, while in Nahuatl it was known as Mazatepetl, “Deer Mountain.” Its elevation is 2,700 m (ca. 8,858 ft), some 400 m higher than Zacatepetl.

Figure 22. Aerial view of the site of Zacatepetl surrounded by the Pedregal lava flow (Compañía Mexicana de Aéreo-foto, S.A. 1941) (Archive J. Broda).



Without entering into further detail it should be mentioned that at the summit of Mazatepetl there existed another important shrine, a pyramid constructed on top of a natural rock outcrop (**Figure 23**). At its lower platform hewn out of the bedrock, a large

tortoise was carved from the live rock. It has been heavily damaged by mutilation (Rivas 2006). At the rear side of the pyramid, at the summit of the mountain, the natural boulders located there were worked as “maquetas” with miniature models of stairs, steps and ponds.



Figure 23. Pyramid at the summit of Mazatepetl, “Deer mountain” (Magdalena Contreras, México, D.F.) (photo J. Broda).

The larger design of the site naturally is strongly deranged today; however, at the access to the summit, an ample causeway is still recognizable. It may have served for processions and pilgrimages ascending to the height of Mazatepetl.

Another remarkable circumstance is that from the summit of Deer Mountain the winter solstice sun rises precisely behind the volcanic cone of Popocatepetl, permitting an even more precise observation than from Cuicuilco-Zacatepetl.

At the eastern slope of Mazatepetl, among the encroaching modern urbanization, an impressive free-standing carved boulder still preserves the relief of the rain god Tlaloc who, without doubt, was worshipped at the site (**Figure 24**). This Tlaloc also faces the East, towards the prominent horizon line of the volcanoes.

Although the mountain of Mazatepetl is represented on several pictorial documents, however, it is not mentioned in the chronicler's accounts of Aztec calendar festivals. In that respect the detailed description of the ceremonies taking place on Zacatepetl and Mt. Tlaloc are unique.⁹

Figure 24. Relief carving of the rain god Tlaloc on the eastern slope of Mazatepetl (Magdalena Contreras, México, D.F.) (photo J. Broda)



Aztec conquests and the creation of new centers of pilgrimage

Finally, I would like to refer briefly to Aztec expansion beyond the Basin of México and the creation of new ritual landscapes. Aztec conquests led them to establish themselves and create their monumental rock

sanctuaries at Malinalco (today state of Mexico) and Tepoztlán (state of Morelos) in the territories of conquered ethnic groups (**Figure 25**).

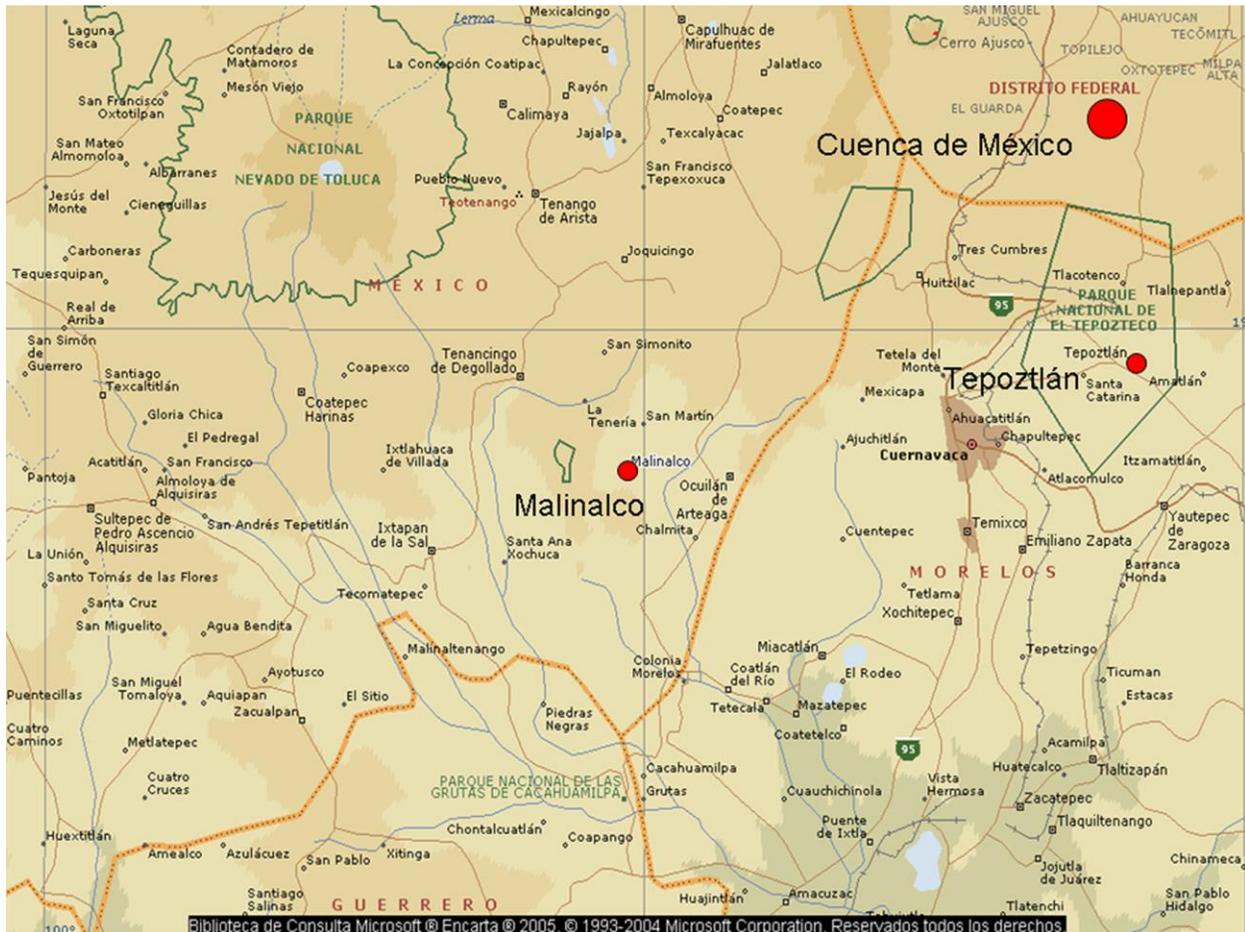


Figure 25. Map of the Central Highlands of Mexico, with Tepoztlán and Malinalco indicated.

At Tepoztlán, the Aztecs built at the end of the 15th century, their temple to the Wind God (Ehecatl-Quetzalcoatl) on top of previously existing structures. According to one historical source, the sanctuary of *El Tepozteco*, a cliff temple situated on a steep volcanic ridge some 660 m above the Valley, attracted pilgrims from as far away as Guatemala (Figure 26).¹⁰ Still more important than Tepoztlán was Malinalco, the rock sanctuary where the Aztecs carved its magnificent temple

precinct out of the live rock (Figure 27). Malinalco is situated to the West of the Basin of Mexico, today the state of Mexico, and was an important local sanctuary that was conquered by the Aztecs in 1476. It is interesting that the Aztecs did not just co-opt the nearby shrine of Chalma. Instead they chose to build a new shrine (with military themes and on a fortified hill site) in a key strategic location to expand and maintain their imperial borders to the west. In this case the military agenda was also satisfied.



Figure 26. The Temple pyramid of *El Tepozteco* (photo J. Broda).



Figure 27. General view of the cliff sanctuary of Malinalco, State of Mexico (photo J. Broda).



Figure 28. The Monolithic Temple of the Jaguars and Eagles at Malinalco (photo J. Broda).

In 1501 the Aztecs initiated an ambitious building project at the site that reveals the political and religious importance that Malinalco represented to them. The whole mountain, today called *Cerro de los Ídolos* was converted into a sanctuary, the main temple buildings are situated half-way up the summit (**Figure 28**). Its principal temple is carved from the cliffs of the mountain and imitates a cave, its entrance carved as the fangs of the earth monster,

entrance into the interior of the earth. Inside, in the dark artificial cave are carved from the bedrock the hides of three eagles and one jaguar, i.e. they represent dead animals (**Figure 29**; **Figure 30**). The shrine of Malinalco might have served as a place of worship that congregated Aztec rulers and noble warriors of the eagle and jaguar orders to perform certain ceremonies and do penance at the site (Broda 1977).



Figure 29. Sculptures of eagle and jaguar hides inside the Monolithic Temple of Malinalco (photo J. Broda).



Figure 30. Feline sculpture carved from the bedrock inside the Monolithic Temple of Malinalco (photo J. Broda).

A magnificent mural was discovered at Malinalco during the first excavation of the site that José García Payón (1974) undertook in 1936; it decorated one of the walls of Temple III. Unfortunately, it has faded away by now. The mural depicted a procession of Aztec (or Toltec?) warriors converging upon the sanctuary.

At Malinalco, there exist remarkable astronomical alignments at the site, on the one hand towards a natural cut in the nearby mountain range; as seen from the entrance of the temple cave the alignment towards this cleavage points precisely to the south which indicates that the precinct was deliberately oriented in this way. On the other hand, on the eastern side of the cliff sanctuary there are the remains of what was once a spacious hall also hewn from the bedrock. Its orientation is towards the eastern horizon across the Valley towards a natural cut in the horizon line that coincides with two highly significant dates of the annual calendrical cycle. These dates are February 12 and October 29 according to

Galindo (1990) and previous measurements and visits to the site by Aveni and Hartung, Tichy, Romero Quiroz as well as this author.¹¹ No recent measurements have been undertaken at the site. February 12, as has been noted above, coincided with the Aztec beginning of the solar calendar.¹²

The ruins of Mount Tlaloc, Zacatepetl, Mazatepetl, Tepozteco and Malinalco are the most important extant examples of Aztec sanctuaries dedicated to the cult of mountains and the earth; at these sites it is also possible to show the existence of astronomical alignments of calendrical significance. Apparently, their geographic location was chosen deliberately and the architectural projects were meticulously planned. Additionally, these sites belong to the Aztec conquests of historically important places and pre-existing sanctuaries in the vicinity of the Valley of Mexico; thus the building projects of these sanctuaries became an ideological expression of Aztec expansion and growing political domination (cfr. Pasztor 1983).

Final remarks

In this article we have reviewed information on Aztec calendrical festivals that included processions to sacred places and shrines situated in the Basin of Mexico and adjacent areas of the Central Highlands. These data are not easy to reconstruct from the ethnohistorical sources. They require a rather complex methodology to be applied to the study of 16th century chroniclers and indigenous pictorial documents. These sources are then interpreted in terms of anthropological concepts and theory. In the interdisciplinary methodology applied in this paper, concepts like *the observation of nature* and *the creation of ritual landscapes* are

fundamental in order to situate the processions and ceremonies into *real space*. The use of archaeological data and fieldwork is very important for this research, as well as the collaboration with cultural geography and archaeoastronomical and calendrical studies.

In this perspective, our methodology has been (1) first to reconstruct the ceremonies from the ethnohistorical sources; (2) explore the spatial dimension of processions and ceremonies, i.e. their projection into real space; (3) consider the political aspects of processions in relation to the territory conquered by the Aztec state; (4) and finally analyze how Aztec cosmology

represented the creation of a ritual landscape and its symbolic interpretation. We have argued that Aztec expansion and conquests in the core area of their political domain made them take possession of the landscape and reinterpret their own history in terms of the new cultural and political landscape they created. Such an ideological message is perceived in the case of sacred places like Zacatepetl, Mazatepetl or Cocotitlan that formerly belonged to the territory of other ethnic groups. This also happened in the *outer heartland*¹³ of the Aztec core area, i.e. in their conquests of the sanctuaries of other ethnic groups like Malinalco and Tepoztlan.

In this perspective, I agree with Bauer and Stanish (2001: 18) who in the case of the Ancient Andes, point out that “the mere fact that a pilgrimage center associated with the dominant state exists on or near an older sacred site sends a powerful message of cultural dominance or legitimate succession.” According to the approach used here, shrines and sanctuaries are not visualized as a manifestation of hierophanies (Eliade), rather it is the rituals performed there through which social groups and political communities take possession of the landscape and turn it into a sacred geography.¹⁴

In the Aztec case, this political scenery became part of their reinterpretation of the natural landscape centered on the worship of mountains, caves, lakes, springs and the sea. Processions and pilgrimages produced a continuous movement that animated the landscape, thus we are dealing with fundamental ritual processes that created the sacred landscape. In Aztec times, starting from their symbolic center at Templo Mayor, processions and pilgrimages spread over the entire Basin, taking up older routes and creating new ones. From the island of Tenochtitlan, these routes crossed the lake by canoe towards the different cardinal directions

where shrines were located, or approached Tepetzintli, the small conspicuous island in the middle of the lake where the Aztecs carved magnificent reliefs on its steep boulders.

During the month of I Atlcahualo, the procession of priests with the child Cocotl approached by canoe the Southern shore of the lake and former territory of the competing city-state of Chalco. There, at Cocotitlan, the Aztecs built a shrine at the summit of the hill which up to the present has remarkable petroglyphs on its boulders. Looking from there towards the East, one obtains a magnificent view of the near-by great volcanoes Popocatepetl and Iztac Cihuatl. Sunrise takes place behind the broad profile of Iztac Cihuatl on February 12 (**Figure 31**).

Thus, the date of the orientation of this mountain shrine corresponded to I *Atlcahualo* and the Aztec beginning of the year. We have seen in this paper that most of the shrines possessed visual alignments towards sunrise behind the prominent volcanoes of the eastern horizon of the Basin. This observation applies to Mt. Tlaloc, Cuicuilco-Zacatepetl as well as Mazatepetl mentioned in this text. The fact that February 12, the initial day of the Aztec year, figures prominently among these dates, is worth noting. The same date was incorporated into the ground plan of the spectacular sanctuary the Aztecs created at Malinalco.

We further observe that the distribution of child sacrifices in the geography of the Basin evoked a certain directional symbolism that implied a division of the territory according to the four cardinal directions and the center. At the very center of the lake we find the location of Pantitlan, the dangerous whirlpool of the lake, a geological break that became a principal place of worship. It was situated amidst the salty waters of the lake of Tetzoco.

Thus, the offerings at Pantitlan are also conspicuous because this fearsome drain was considered to be an entrance into the subterranean space filled with water that connected to the sea. The latter was called *ilhuica atl*, “the divine water which blends with the sky.” The Aztecs considered the sea as the absolute symbol of fertility and their

endeavor to integrate the sea within their cosmovision reflected their political claim to rule over the known world. Thus, the Aztecs created ritual landscapes based on their cosmovision blending the observation of nature with an ideological interpretation of the human world as well as the cosmos.



Figure 31. Sunrise on February 12 behind Iztaccihuatl, as seen from Cocotitlan (photo J. Broda 12 Feb. 1998).

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ABREVIATIONS:

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| IIA | Instituto de Investigaciones Antropológicas |
| IIH | Instituto de Investigaciones Históricas |
| INAH | Instituto Nacional de Antropología e Historia |
| UNAM | Universidad Nacional Autónoma de México |

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Footnotes

¹ These sources are discussed in Broda (1971). Cf. *Codex Borbonicus* (1974), Sahagún: *Primeros Memoriales* (1974); *Florentine Codex, Bk. II* (1950-82); *The Tovar Calendar* (Kubler and Gibson 1951); Motolinía (1971); Durán (1977, 1990; Gómez de Orozco ed. 1945).

² Blood-offerings, *nextlahualli*; human banners, *tlacatetehuitl* (CF II: 43).

³ Cf. Broda 1971, 1991a, 1996, 1997a, 1997b, 2000, 2001b, 2008, 2009, 2012.

⁴ Cf. D. Carrasco ed. 1991; Boone 1991; Broda 1991b.

⁵ Cf. Boone ed. 1987; Broda, Carrasco and Matos 1987; López Luján 1994; López Lujan et al. 2012; López Austin and López Luján 2009.

⁶ Some were substituted by Christian churches that became centers of pilgrimage during Colonial times (Tichy 1991).

⁷ I have registered more than 30 significant places through field work and historical or ethnographical documentation (see fig. 2) (Broda 1991a, 1991b, 1996, 1997a, 1997b, 2001b). However, the explosive growth of Mexico City over the past 50 years (and particularly so since the 1990s) makes it almost impossible to continue this research today.

⁸ Cf. Cook de Leonhard 1955; Marcus 1982; Zimbrón 2010.

⁹ However, the New Fire Ceremony which took place every 52 years on Huixactecatl, today Cerro de la Estrella, should also be mentioned in this context (cf. Broda 1982).

¹⁰ Acuña ed. 1985; Broda and Robles 2004; Gallo 1987.

¹¹ Aveni 1980: 117, Aveni and Hartung 1981; Broda 1977; Romero Quiroz 1987; Tichy 1981: 220, 1991

¹² Broda 1977, 2000; Galindo 1990; Sahagún, CF II: 1.

¹³ Cfr. Broda 2015; Farrington 1992.

¹⁴ Of course, the rituals were also connected to the enactment of myth.

Broda, Johanna

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