EMC
BRATISLAVA
2025

TIME IN MESOAMERICA

CONFERENCE PROGRAM

BOOK OF ABSTRACTS

EMC BRATISLAVA 2025 | TIME IN MESOAMERICA

COMENIUS UNIVERSITY BRATISLAVA

CENTER FOR MESOAMERICAN STUDIES

WAYEB

PROMAYA

AGENTÚRA NA PODPORU VÝSKUMU A VÝVOJA

MÚZEUM MESTA BRATISLAVY

The organizers gratefully acknowledge the support of the Slovak Research and Development Agency (SRDA), provided under the project "Sacred Time Reckoning - The origin and evolution of pan-Mesoamerican calendric patterns and their influence on the formation of time perception and function of Pre-Columbian society", grant no. APVV-23-0622.

Chronos

ISBN 978-80-89027-80-4

EMC BRATISLAVA 2025 | TIME IN MESOAMERICA

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European Association of Mayanists, Wayeb

ProMaya, o.z.

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Kristína Škorvagová

Miroslav Nagy

Lesana Liptovská

EMC BRATISLAVA 2025 | TIME IN MESOAMERICA

MONDAY 24th NOVEMBER

LOCATION: Moyzes Hall, Vajanského nábrežie 12, Faculty of Arts, Comenius University Bratislava

17:30 - 18:30 Registration

18:30 - 18:50 **Welcome address**

Harri Kettunen (Wayeb President), Milan Kováč (Head of the Center for Mesoamerican Studies, Comenius University), Jakub Špoták (Main Organizer, Bratislava EMC2025), Dora Maritza García Patzán (Representative of the Organizing Committee, Bratislava EMC2025)

18:50 - 20:00 **Opening Talk**

Harri Kettunen (University of Helsinki), Felix Kupprat (Universidad Nacional Autónoma de México), Jakub Špoták (Comenius University), & Marc Zender (Tulane University)

Time in the Maya World

20:00 - 21:00 Opening reception

Opening of exhibition "**Anonymous Archaeologists: The Jungle and the Explorers of Maya Ruins**" by Katarína Lišková

WORKSHOP LOCATIONS

Faculty of Arts, Department of Comparative Religions, 1st floor, Štúrova 9

Beginners Workshop - Room 109

Intermediate Workshop - Room 106

Main Building, Faculty of Arts, Comenius University Bratislava, Gondova 2

Advanced workshop - Room 140 (1st floor)

Special Workshop - Room 311 (3rd floor)

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TUESDAY 25th NOVEMBER

08:30 – 09:30 Registration (Location: Department of Comparative Religions, 1st floor, Štúrova 9)

09:30 – 12:30 **Workshops: Morning session**

12:30 – 14:30 Lunch break

14:30 – 18:00 **Workshops: Afternoon session**

WEDNESDAY 26th NOVEMBER

09:30 – 12:30 **Workshops: Morning session**

12:30 – 14:30 Lunch break

14:30 – 17:00 **Workshops: Afternoon session**

17:30 – 18:30 **Wayeb General Assembly**

Location: Room 127, Main Building, Faculty of Arts, Comenius University Bratislava, Gondova 2)

THURSDAY 27th NOVEMBER

09:30 – 12:30 **Workshops: Morning session**

12:30 – 14:30 Lunch break

14:30 – 17:30 **Workshops: Afternoon session**

THURSDAY 27th NOVEMBER

17:30 – 18:30 Guided tour of the exhibition "Biographies of People and Things"

18:30 – 21:30 **Symposium Opening Reception**

Location: Bratislava City Museum - Faust Hall, Radničná ul. č. 1

Welcome address to the 30th European Maya Conference:

18:30 – 18:40 Harri Kettunen (Wayeb President), Milan Kováč (Head of the Center for Mesoamerican Studies, Comenius University), Jakub Špoták (Main Organizer, Bratislava EMC2025), Iveta Puchovanová (EMC2025 Organizing Committee, ProMaya & our evening's host)

18:45 – 18:50 Ambassador of Mexico, H.E. José Antonio Zabalgoitia Trejo

18:50 – 18:55 Ambassador of Guatemala, H.E. Gabriel Orellana Zabalza

18:55 – 19:05 First part of the concert (first violin and piano from the National Theater Orchestra)

19:05 – 19:20 Memorial talk on the life and works of Karl Herbert Mayer

19:20 – 19:30 Second part of the concert

19:30 – 19:45 Inauguration of the Ferdinand Anders Library by Wolfram Anders

19:45 – 19:55 Third part of the concert

19:55 – 20:00 Invitation to the exhibition "**Totonicapán: Resilience of Maya Ceramic Tradition**"

20:00 – 21:30 Reception and tour of the exhibition

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FRIDAY 28th NOVEMBER

LOCATION: Moyzes Hall, Vajanského nábrežie 12, Faculty of Arts, Comenius University Bratislava

08:00 – 09:00 Symposium registration

09:00 – 09:20 **Welcome address:**

Marián Zouhar (Dean of the Faculty of Arts, Comenius University), Milan Kováč (Head of the Center for Mesoamerican Studies, Comenius University), Jakub Špoták (Main Organizer, Bratislava EMC2025), Dora Maritza García Patzán (Representative of the Organizing Committee, Bratislava EMC2025), Harri Kettunen (Wayeb President)

09:20 – 09:50 **Symposium opening talk**

Harri Kettunen (University of Helsinki), Jakub Špoták (Comenius University), & Marc Zender (Tulane University)

Time in Mesoamerica (Introduction to the Theme of the Conference)

KEYNOTE TALK

09:50 – 10:40 Marc Zender (Tulane University)

Some Epigraphic Thoughts About Ancient Maya Astronomy

10:40 – 11:00 Coffee break

SESSION 1 – Archaeology I: Constructing Time

Session Chair: **Felix Kupprat**

11:00 – 11:30 Milan Kováč (Comenius University)

Primeras manifestaciones del arte monumental en Petén: el inicio de la tradición de estelas

FRIDAY 28th NOVEMBER

11:30 – 12:00 Jan Szymański (University of Warsaw) & Julia Przedwojewska-Szymańska (University of Warsaw)

The White Line that Divides Time: Archaeology of the "Before" and "After" of the Ilopango Eruption in El Salvador

12:00 – 12:30 Cristina Gonzalez-Esteban (University of Oxford) & James Bacon (Trent University)

Time to Consider Time: How Settlement Studies Can Effectively Integrate Chronological Data Through Digital Technologies

12:30 – 13:00 Mirko De Tomassi (Ludwig-Maximilians-Universität München)

Reconstructing the Timeline of Deposition Sequences in Reopened Collective Burials at Palenque, Chiapas

13:00 – 14:30 Lunch break

SESSION 2 – Archaeology II: Materializing Time

Session Chair: Jan Szymański

14:30 – 15:00 Francesca Glanville-Wallis (University College London)

The Soils of Time: A Geoarchaeological Approach to Urban Settlement at Lamanai, Belize

15:00 – 15:30 Dora Maritza García Patzán (Comenius University)

Depósitos cerámicos a través del tiempo en Uaxactun y su región noreste: Un análisis del ritualismo del Preclásico al Clásico

15:30 – 16:00 Socorro del Pilar Jiménez Álvarez (Universidad Autónoma de Yucatán)

Entre ríos, costa y el interior: Estilos cerámicos de la pasta fina en el Área Maya

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FRIDAY 28th NOVEMBER

16:00 – 16:30 Armando Anaya Hernández (Universidad Autónoma de Campeche)

Temporal Dimensions of Settlement Patterns in Calakmul: Toward a chronology of Urban and Agrarian Landscapes

16:30 – 16:50 Coffee break

SESSION 3 – Text and Textiles: Binding and Weaving Time

Session Chair: Iveta Puchovanová

16:50 – 17:20 Nikol Quardová (Comenius University) & Jakub Špoták (Comenius University)

Binding Time: Power and Symbolism in the Initial Series Introductory Glyph

17:20 – 17:50 Nancy Martínez (University of California, Los Angeles)

Feeling Time: Ephemerality as Meaning-Bearing Quality of Writing

Presentations of the host research team

17:50 – 18:50 Milan Kováč, Dora Maritza García Patzán, Fátima Tec Pool & Iveta Puchovanová

SATURDAY 29th NOVEMBER

SESSION 4 – Symbolic Time

Session Chair: Harri Kettunen

09:30 – 10:00 William Humberto Mex-Albornoz (Universidad Nacional Autónoma de México)

An Approach to the Use and Symbolism of the 260-Day Count Among the Classic Maya

10:00 – 10:30 Catherine Nuckols (Metropolitan Museum of Art)

The "Burden of Time:" A Reconsideration of Full-Figure Glyphs as Carriers of Time

10:30 – 11:00 Christophe Helmke (University of Copenhagen)

Reckoning Deep Time: A Mythological Baktun 12 Text from Tulix Mul, Belize

11:00 – 11:30 Coffee break

SESSION 5 – Cosmic Time

Session Chair: John F. Chuchiak

11:30 – 12:00 Albert Davletshin (Universidad Veracruzana) & Sergei Vepretskii (Researcher)

Non-numerical Glyphs D of the Lunar Series in Classic Maya Inscriptions

12:00 – 12:30 Andreas Fuls (Technical University Berlin)

Dating of Astronomical Phenomena in the Dresden Codex and Beyond

12:30 - 13:00 Jakub Špoták (Comenius University)

Tracing the Movement of Constellations: Evidence for a Possible Second 364-day Calendar Table in the Paris Codex

13:00 – 14:30 Lunch break

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SATURDAY 29th NOVEMBER

SESSION 6 – Counting Time

Session Chair: Jakub Špoták

14:30 – 15:00 Natalie Korobzow (Max Planck Institute for Evolutionary Anthropology)

A Database for the Study of the Co-Evolution of Vigesimal Numeral Systems and the Calendar in Mesoamerica

15:00 – 15:30 Jan Naumenko (Independent researcher) & Sergei Vepretskii (Researcher)

Breaking the Lunar Code: Astronomy and Mathematics of Classic Maya Supplementary Series

15:30 – 15:50 Coffee break

SESSION 7 – Reconstructing Time

Session Chair: Milan Kováč

15:50 – 16:20 Bruce Love (Anthropological Research Contributions)

To Honor the Ancestors: How a Review of the Daykeepers' Craft Over Two Thousand Years Might Resolve the Correlation Question

16:20 – 16:50 Victor Castillo (Jagiellonian University)

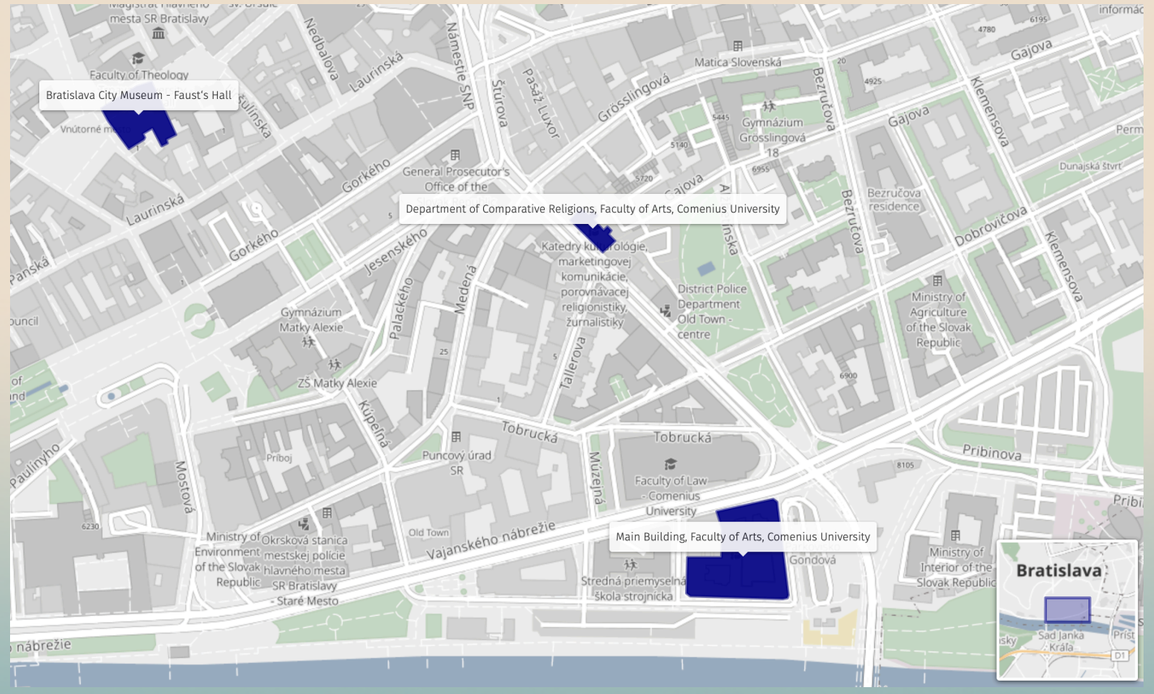
Layers of Conquest and Revival: The Chronologies of the Postclassic Maya Highlands

16:50 – 17:20 John Chuchiak (Missouri State University)

Apocalyptic Visions of Freedom: The Prophetic Roots of Colonial Maya Rebellions, 1546–1790

17:30 – 18:30 Closing address & Flag ceremony

18:30 – 21:00 Closing reception



Locations of conference venues

Main Building, Faculty of Arts, Comenius University

- Monday - Opening Talk (Moyzes Hall)
- Tuesday to Thursday - Advanced and Special Workshops + Wayeb General Assembly
- Friday - Saturday - Symposium (Moyzes Hall)

Department of Comparative Religions, Faculty of Arts, Comenius University

- Tuesday to Thursday - Beginners and Intermediate Workshops

Bratislava City Museum

- Thursday - Symposium Opening Reception

Use this QR code to open online map of the conference venues, restaurants, coffee shops, bars, pubs, etc.

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WORKSHOP ABSTRACTS

Beginners' workshop

Introduction to Maya Glyphs and Calendars

Jakub Špoták, Eva Jobbová, Iveta Puchovanová & Kristína Lopušanová

The Beginners' Workshop will provide a general introduction to Maya epigraphy, with a particular emphasis on the calendrical system and its role in Maya writing. It is open to anyone interested in the topic, and is especially ideal for people who have never worked with Maya inscriptions, although participants with limited previous experience are also welcome.

The workshop will cover a broad range of topics, including the history of decipherment, an overview of the corpus, and the inner workings of the writing system itself. Starting from the basics, participants will learn about the principles of Maya hieroglyphic writing and the structure of texts, while special attention will be devoted to the Maya calendar and its interlocking systems — the Long Count, Tzolk'in, and Haab', as well as the Supplementary Series and Year Bearers. Through practical exercises, participants will practice calculating distance numbers, exploring ceremonies tied to calendrical cycles, and analyzing examples from both monumental inscriptions and codices. Hieroglyphic texts from different Maya cities will be studied to illustrate how calendar reckoning structured political, ritual, and historical narratives in the ancient Maya world.

By the end of the workshop, participants will be able to read simple inscriptions, follow calendrical calculations, and understand the basic logic of Maya time reckoning.

Intermediate workshop

Deep Time and the (Grand) Long Count

Marie Botzet & Dimitrios Markianos-Daniolos

Tracking the passage of time, the movements of celestial bodies, and the occurrence of significant days and events was a central aspect of Classic Maya culture. This emphasis gave rise to the invention of several calendars, used by the Maya and other Mesoamerican peoples, some of which remain in use today. This workshop will focus on the Long Count, which played a pivotal role during the Classic Period, and introduces most monumental texts. But just how long was it? Beginner and intermediate students of Maya hieroglyphic writing are familiar with the five main periods used to construct a Long Count date (bak'tun,

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k'atun, tun, winal, k'in), but there were many more periods whose lengths dwarf the five main ones we see in most inscriptions, in what has been called the "Grand Long Count". Mathematician scribes used these periods to make calculations involving numbers of astronomical lengths. These "expanded versions" of the Long Count helped to refer to events in the deep past or even the distant future, many of them supernatural in character. These grand narratives take the reader on journeys through cosmic time and creation events which were fundamental for Classic Maya dynasties. In this workshop, we will cover the history of the Long Count system and examine a selection of "deep time" inscriptions and their enigmatic narratives. When was the world created? What came before our current era? Is there a beginning and an end to the Maya calendar? What was all the fuss with 2012? We will tackle all of these questions and more in our workshop, as we navigate through deep Maya time. By the end of this workshop, the students will have a better grasp of the Maya Long Count and will have the opportunity to read through some unique monumental texts, further appreciating the tradition of Maya timekeeping.

Advanced Workshop

Ancient Maya Astronomy and Timekeeping

Marc Zender, Felix Kupprat & Harri Kettunen

The academic study of Maya calendars and astronomy began in the late 19th century, predating the phonetic decipherment of Maya writing by over 75 years, and has produced a complex and multilingual literature. For these reasons, but also due to the demanding specializations of astronomy and mathematics, the findings of this field are often inaccessible to anthropologists, iconographers, epigraphers, and linguists who might otherwise be fascinated by Maya astronomy, but lack the necessary background to absorb the frequently forbidding literature on this subject. Our purpose in this team-taught seminar-style long workshop is to provide that background, as well as a thorough review of what can be said with some confidence about ancient Maya astronomy and timekeeping.

The workshop begins with a review of the major Maya calendars (i.e., the so-called Tzolkin, Haab, Calendar Round, Long Count, and Lunar Series). We then provide a 'crash course' in observational astronomy, focusing on the major bodies and phenomena observed and recorded by the Maya: (1) the Sun (particularly the length of the year, and its natural division by solstitial and equinoctial stations); (2) the Moon (including its phases and central involvement in both lunar and solar eclipses); (3) Venus; (4) Mars, and; (5) the constellations. These provide a 'springboard' to several linked, thematic surveys of Maya astronomical records in Colonial sources, Postclassic codices, and Classic stone monuments.

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Over the course of this three-day workshop, students will be exposed to all of the most important astronomical information in Maya art, writing, and language, including (but not limited to): rare but important colonial Maya terms for stars, planets, and constellations (e.g., *ek*, *ac ek*, *chac ek*, *çinan ek*, *tzab ek*, *xux ek*, etc.) and their echoes of Classic Maya terms; the Madrid Codex cosmogram; the Dresden Codex eclipse pages and relevant Classic texts from Poco Uinic, Xultun, and Quirigua; the Venus tables of the Dresden and Grolier/Mexico codices; the alignments of the Caracol observatory at Chichen Itza. and a rare Venus event recorded in Copan's Temple 11 EN Panel; the Dresden Codex Mars Table; and the Paris Codex constellations, with relevant evidence from skybands and depictions of constellations in Maya art. It is of course impossible to cover everything that has been either discerned or guessed about Maya astronomy in a mere three days, but we are confident that the most important and consensual topics can indeed be introduced and explained in the time we have before us.

Special workshop on Maya ceramics

Fragmentos que hablan, el lenguaje de la cerámica maya

Dora Maritza García Patzán & Socorro del Pilar Jiménez Álvarez

El taller especial de cerámica maya iniciará con el aprendizaje de los conceptos básicos para el análisis de este material tan importante que trasciende el tiempo, abordando el lenguaje técnico especial para su descripción y estudio. En este punto también se abordarán las metodologías existentes y se realizarán comparaciones de estilos regionales e iconografía. La cerámica también es importante para el establecimiento de cronologías y tipologías a través de métodos modernos que nos ayudan a ubicar los hallazgos a través del tiempo. Por lo tanto, nos adentraremos en el papel e importancia de los recipientes de barro en la vida cotidiana y en varios tipos de contextos, su significado, iconografía e interpretación. La pregunta principal a abordar será ¿qué nos dicen los objetos de barro de sus creadores? El objetivo es adentrarnos en el mundo del barro, además de las descripciones formales y técnicas. En cuanto a las técnicas de manufactura también nos adentraremos en los estudios etnográficos sobre la elaboración de cerámica prehispánica y su permanencia en las comunidades actuales, estaremos analizando materiales audiovisuales de algunos ejemplos en Guatemala. La cerámica, por tanto, no son solo objetos sino también sujetos de acción que poseen una función y papel dentro de las comunidades. Finalmente tendremos algunos ejercicios prácticos donde los participantes podrán aplicar los conocimientos adquiridos.

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Marc Zender (Tulane University)

Some Epigraphic Thoughts About Ancient Maya Astronomy

In the late nineteenth century, Förstemann, Schellhas, Seler, and other polymath European scholars laid the foundations of Maya studies. Spurred by the rediscovery of the Relación manuscript (Brasseur de Bourbourg 1864), their research naturally centered on the three Postclassic Maya codices known from European collections. In some ways, this was unfortunate, inasmuch as their initial successes with the calendrical and astronomical passages of the codices led to a default assumption that this in fact comprised their sole raison d'être. As Maya studies developed and specialized, particularly in the wake of the phonetic decipherment of the late twentieth century, this foundational bias widened into a considerable disciplinary divide between students of Postclassic codices and astronomy (on the one hand) and students of Classic Period monuments and history (on the other). Even today, though some exceptions can be found, the two subfields and their specialized literatures rarely interact.

In this keynote presentation, I propose several decipherments and interpretations which may, perhaps, begin to bridge this divide. I highlight the diglossic Ch'olan and Yukatekan sociolinguistic context of the codices, and the complex means by which lexemes and grammatical patterns of both languages are encoded therein. This considerably clarifies the role of the verbs *ch'ak*-, *k'al*-, and *pa'*- in key astronomical passages in the Dresden Codex. I also suggest that a thorough review of Classic Maya star lore might assist us in navigating numerous conflicting views of the Paris Codex constellation pages.

Milan Kováč (Comenius University)

Primeras manifestaciones del arte monumental en Petén: el inicio de la tradición de estelas

En esta presentación nos ocuparemos de los últimos hallazgos en el norte de Petén, registrados entre 2023 y 2025 por el proyecto PARU Uaxactún. Se trata de arte monumental en el recién descubierto sitio Los Abuelos y sus alrededores, que data del periodo Preclásico Medio y Preclásico Tardío. Se han descubierto esculturas monumentales del tipo barrigón, así como varios altares y estelas. Las excavaciones han demostrado una notable conexión entre los grabados rupestres y las primeras estelas. Se han encontrado tanto grabados rupestres in situ como grabados rupestres tallados de roca madre y transformados en monumentos que datan de entre 800 y 600 a. C. Una de las estelas, la Estela n.º 6, se encontró todavía en posición vertical, mostrando también elemento de arte rupestre, y sus ofrendas databan de principios del periodo Preclásico

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Medio. El material comparativo muestra una gran transferencia cultural desde la costa del Pacífico justo al comienzo del periodo Preclásico Medio, así como la evolución de los monumentos, que podemos seguir en el sitio Los Abuelos hasta el periodo Preclásico Tardío. Tenemos todas las razones para creer que hemos captado la formación y el contexto del origen y desarrollo de las primeras estelas en Petén.

Jan Szymański (University of Warsaw) & Julia Przedwojewska-Szymańska (University of Warsaw)

The White Line that Divides Time: Archaeology of the "Before" and "After" of the Ilopango Eruption in El Salvador

In Mesoamerica, few events create as stark a boundary in the archaeological record as the Tierra Blanca Joven (TBJ) ash layer, deposited by the eruption of the Ilopango volcano between the 5th and 6th centuries AD. This bright white stratum, ubiquitous across archaeological profiles in western El Salvador, serves as a visible marker separating the cultural landscape that existed before the eruption from that which emerged afterward. In this paper, we argue that the pre-eruption society was not "Maya" in the traditional sense, as is often assumed, but rather an ethnolinguistically diverse cultural entity. This society maintained strong ties with the Maya of the Las Charcas–Providencia–Verbena sphere in the Guatemalan highlands, as well as with the pre-Copán populations of west-central Honduras and the Isthmo-Colombian cultures of the Tempisque and Bagaces phases in Nicaragua and Costa Rica. The Ilopango eruption—potentially one of the most powerful volcanic events of the Holocene—obliterated this complex cultural mosaic. The society that emerged in its aftermath was unmistakably Maya, with significantly diminished connections to the eastern, non-Mesoamerican cultures, while maintaining close relations with the Guatemalan highlands and the now-Maya Copán Valley of the Late Classic period.

Cristina Gonzalez-Esteban (University of Oxford) and James Bacon (Trent University)

Time to Consider Time: How Settlement Studies Can Effectively Integrate Chronological Data Through Digital Technologies

"Time" is a key concept of archaeology, from the consideration of time by ancient civilizations, to the chronological understanding of their remains, and the continuous development of new tools for better understanding of the past. This presentation focuses on the latter. Time has always been a variable in archaeology as settlements are not

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passive or static entities. Since the integration of LiDAR, "Digital Twins", and GIS in the early 21st century, to the more recent reconstruction hypothesis techniques, digital technologies have slowly proven to be useful tools to record, preserve and display archaeology to different audiences. Maya archaeology has benefited from these tools due to its positive features and remote locations. Therefore, can these tools also be used to create detailed temporal analysis? Would our understanding of settlement evolution and transition over time change once we overcome the palimpsest recorded through settlement surveys?

This article tests this theory at Corozal Mayor, a collection of medium-size sites southeast of Tikal, present until the Terminal Classic. These settlements can be traced back to the Middle/Late Preclassic with the gradual development of Quemada Corozal and the supplementary cores nearby (Taj, Torre and Zapote). In the Early Classic, major architectural remodelling happened at Quemada while a new core, San Clemente, formed barely 2km away. This presentation aims to create surface and 4D models that allow temporal analyses of settlement aspects (visibility, accessibility, water management) to promote the importance, accessibility and value of digital technologies for the understanding of multiscale site formation processes over time.

Mirko De Tomassi (Ludwig-Maximilians-Universität München)

Reconstructing the Timeline of Deposition Sequences in Reopened Collective Burials at Palenque, Chiapas

This presentation explores the deposition sequences of recently excavated collective burials at the Classic Maya site of Palenque, Chiapas, Mexico. Epigraphic, iconographic, and archaeological evidence suggests that Maya funerary rituals were structured around the pace of post-mortem body decay and ossification. Burials' reentry and other post-burial interventions created complex burial contexts, often containing multiple individuals—interred simultaneously or successively—and secondary, disarticulated remains.

Rather than creating a relative chronology between burials, this study focuses on reconstructing relative chronologies within individual burials by examining the sequence and timing of funerary actions. Using the method of archaeothanatology, which integrates taphonomic knowledge with stratigraphic analysis, this research traces how ancient funerary activities unfolded over time within specific mortuary spaces.

The findings indicate that burials at Palenque were dynamic loci of repeated ritual engagement. Activities included burial reentry, the deposition of additional individuals,

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secondary manipulation of skeletal remains, and partial alteration of the grave. Grave goods were also placed at different moments in the burial sequence, highlighting the importance of such objects in these practices.

This case study demonstrates the value of archaeothanatological approaches for disentangling the sequence of funerary behaviors over time and for interpreting the material traces of prolonged ritual engagement within Maya mortuary contexts.

Francesca Glanville-Wallis **(University College London)**

The Soils of Time: A Geoarchaeological Approach to Urban Settlement at Lamanai, Belize

The Maya site of Lamanai, in Northern Belize, has an exceptionally long history of occupation spanning over 3000 years. Evidence for initial land use at the site dates to ca. 1600 B.C. and the site stood as an urban and commercial centre from ca. 300 B.C. to about a century before the Spanish conquest in the 1530s. Notably, the site remained an urban centre throughout the Late Classic to Postclassic transition, and from the 16th Century onwards witnessed intermittent settlements including during the British Colonial period and in more recent times. It therefore provides an ideal case with which to study the development of urban settlement and land-use change over the long-term, within the context of societal changes and the settlement's resilience and adaptation to such changes.

This paper presents preliminary results from ongoing geoarchaeological research into the character and development of urban settlement at Lamanai. Results from the study of stratified exposures representative of entire occupation sequences across the site from the pre-urban settlement through to the British colonial period are presented. The paper explores the development of urban complexity through time at the site, expanding our understanding of the emergence of sedentism and agriculture in the region, and providing new data on the character of Maya urban land use at the site, how it changed over time and its long-term impact on the environment.

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Dora Maritza García Patzán **(Comenius University)**

Depósitos cerámicos a través del tiempo en Uaxactun y su región noreste: Un análisis del ritualismo del Preclásico al Clásico

A través de las investigaciones que el proyecto arqueológico regional Uaxactun ha realizado, no solo en este sitio sino también en su región noreste, se han identificado varios contextos especiales de cerámica. Se trata de grandes depósitos de material cuyo patrón es recurrente, fueron piezas completas que fueron quebradas intencionalmente de manera ritual, asociado a algún elemento arquitectónico, escultórico o área dedicatoria, en un momento o evento específico que fue de gran importancia dentro de la comunidad. Estos depósitos rituales aparecen en nuestra área de estudio desde el Preclásico Medio hasta el Clásico Terminal, lo que también nos permite pensar en la permanencia, trascedencia y continuidad de la memoria colectiva de la población en diferentes momentos de la historia. Este tipo de contextos son muy interesantes, ya que se trata de áreas de culto que en ocasiones pudieron evocar a los ancestros. Otro punto importante a abordar es el "sacrificio de vasijas", hecho que debe analizarse desde una perspectiva diferente, teniendo en cuenta el papel de las piezas como sujetos de acción dentro del ritual.

Socorro del Pilar Jiménez Álvarez (Universidad Autónoma de Yucatán)

Entre ríos, costa y el interior: Estilos cerámicos de la pasta fina en el Área Maya

En esta conferencia, en un marco de tiempo y espacio se presentará, un panorama general de la distribución de lozas de pasta fina que fueron consideradas como bienes portátiles de intercambio o de prestigio sociocultural en el área Maya.

La interpretación de estos resultados aportará conocimiento sobre las posibles redes socioculturales de intercambio cerámico que abarcaron tres sub-regiones trascendentales por su situación estratégica como vías de comunicación en el área maya: 1) La cuenca del río Grijalva; 2) La cuenca del río Usumacinta y, 3) La costa de Campeche y Yucatán. Sitios importantes costeros y de tierra adentro que formaron parte del intercambio de esta cultura material de cerámica fina entre sociedades mayas del pasado, fueron Palenque, Comalcalco, Chichén Itzá, Jaina, Xcambó entre otras comunidades de relevancia.

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Armando Anaya Hernández (Universidad Autónoma de Campeche)

Temporal Dimensions of Settlement Patterns in Calakmul: Toward a Chronology of Urban and Agrarian Landscapes

This paper examines the chronological development of the ancient Maya city of Calakmul and its wider surroundings through the lens of its settlement patterns. We construct a temporally grounded model of urban and agrarian expansion based on recent archaeological excavations, lidar data, paleoenvironmental analyses, and geoarchaeological studies. We focus on the spatial articulation of residential compounds, agricultural infrastructure, and hydraulic systems across the broader Calakmul landscape. The findings demonstrate that settlement density, architectural renovation, and infrastructural complexity reflect distinct temporal phases, from initial nucleation in the Preclassic to urban climax and eventual retraction during the Terminal Classic. This study contributes to a more nuanced understanding of temporal dynamics in Maya urbanism and landscape transformation by integrating relative and absolute dating methods with spatial analysis.

Nikol Quardová & Jakub Špoták (Comenius University Bratislava)

Binding Time: Power and Symbolism in the Initial Series Introductory Glyph

The Initial Series Introductory Glyph (ISIG) is traditionally understood as a formal opener of Long Count dates, yet its visual and conceptual significance has often been underestimated. In this paper, we argue that the ISIG is not merely a structural marker, but a symbolically charged element that binds power to calendrical time. Through iconographic analysis, we demonstrate that the ISIG shares key visual components with the Haab' glyph, particularly the royal headband motif, which in Mesoamerican visual culture consistently signifies rulership, legitimacy, and the act of "binding" power.

Several examples from across Mesoamerica show that royal regalia—especially the knotted headband—appears in close association with calendrical records. This pairing suggests that specific temporal units were conceptualized as overseen or "ruled" by particular deities or powers. The ISIG, with its headband-like features, can therefore be interpreted as a sign not only introducing a date but asserting dominion over the time period it initiates.

This perspective also sheds new light on the well-known Maya practice of "binding" stelae, where calendrical rituals were materially linked to acts of political affirmation. By examining

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the interplay between visual symbolism and calendrical structure, we propose that the ISIG served as a nexus of power and time, mediating how the Maya understood temporal cycles as governed, activated, and ritually controlled.

Nancy Martínez (University of California, Los Angeles)

Feeling Time: Ephemerality as Meaning-Bearing Quality of Writing

How might the ephemeral nature of woven crafts inform the interpretative potential of Maya writing? I argue that part of the knowledge embedded in Maya writing, glyphic or alphabetic, can be found in the properties of the materials used and named in Maya languages. Through a transhistorical material analysis of Maya weaving practices and linguistic study of qualia related to the Classic Maya term for writing, "tz'ihb", I examine how the sign systems developed through weaving practices can highlight conscious ephemerality as a meaning-bearing mechanism in Maya writing more broadly. I will look at the interpretative potential of Maya woven textiles as clothing and inscribed surface to examine how textiles index time-sensitive acts such as wearing clothing and weaving itself to communicate particular meaning. Additionally, I will analyse the physical qualities of precolonial codices alongside other materials used for writing such as stone to consider how deliberate usage of more fragile materials possibly inform the choice of content that is recorded. My analysis will be informed by contemporary Maya philosophies such as Maya ts'iib (Worley and Palacios; Chacón), media archeological work on the properties of inscribed surfaces (Krämer), Maya epigraphy informed by questions of materiality (Matsumoto), and conversation with contemporary Maya weavers (Coy; Serech).

William Humberto Mex-Albornoz (Universidad Nacional Autónoma de México)

An Approach to the Use and Symbolism of the 260-Day Count Among the Classic Maya

The 260-day count, known as Tzolk'in among scholars, as Cholq'ij among the present-day Maya, and as Tonalpohualli among the ancient Nahua, is one of the defining elements of Mesoamerican cultures. Thanks to colonial sources, ethnographic studies such as those by Ruth Bunzel and Barbara Tedlock, and recent academic work by Sylvia Whitmore, Guilhem Olivier, and David Stuart, we know that Mesoamericans chose specific days, dates, and trecenas (due to their omens) to perform or avoid certain activities. However, little has been explained regarding the function and symbolism of the 260-day count among the Classic

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Maya. This talk analyzes examples of the choice of dates and trecenas of this count from the cities of Palenque and Yaxchilán. In the case of the first city, the birth and death dates of its rulers will be addressed, proposing that what is represented in the monumental inscriptions is their social birth and social death, different from their biological birth and death. Especially, the symbolism of the trecena 1 Ben and the dates 8 Ajaw and 6 Etz'nab will be addressed. In the case of the city of Yaxchilán, the symbolism of the trecena 1 Eb and its relationship to war and the rulers Yaxun Balam IV, Kokaj Balam II, and "Knot-Eyed Jaguar" will be examined. The aim is to encourage the analysis of the births, deaths, and wars of the ancient Maya in a new way, – using the Tzolk'in as a basis - and explore new ways of understanding time among the ancient Maya.

Catherine Nuckols **(Metropolitan Museum of Art)**

The "Burden of Time:" A Reconsideration of Full-Figure Glyphs as Carriers of Time

In 1950, J.E.S. Thompson commissioned a frontispiece from the renowned artist and muralist Jean Charlot for his groundbreaking book, Maya Hieroglyphic Writing: Introduction. The commission depicted full-figure hieroglyphs inspired by the inscription of Copán Stela D, each carrying a period of time from the Maya Long Count in a tumpline. This commission, coupled with Thompson's interpretation of the monument, led to a long-held association with time as a burden and full-figure glyphs as carriers of that burden. This association persists both in scholarship and in public perception, which has led to the creation of pop culture interpretations of the concept. However, significant epigraphic breakthroughs since Thompson's time have allowed for greater understanding of the Classic Maya perception of time, which did not always align with those of the Postclassic and colonial periods. This paper carefully reexamines the idea of the "burden of time." Visual and textual analysis, coupled with historiographic research, prompt new understandings of Copán Stela D (the monument that inspired much of Thompson's original scholarship), other references to full-figure glyphs, and the personification and interpretation of time in the Classic Maya world. In doing so, this study suggests the need to reconsider our long-standing interpretations of time as a burden to be carried and to consider, instead, ongoing investigations that point to time as an agentive force that could, as with many natural and supernatural forces in the Maya world, take on a figural form in Maya visual culture.

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Christophe Helmke **(University of Copenhagen)**

Reckoning Deep Time: A Mythological Baktun 12 Text from Tulix Mul, Belize

Ancient Maya calendrical records offer Mesoamericanists a unique opportunity to document a wealth of historical events for the Classic period. Most inscriptions date from the 3rd to 9th centuries AD, typically commemorating events shortly after these occurred. However, one set of dates diverges markedly, anchored more than three millennia earlier—in the distant past—around the Long Count "era" date of 13.0.0.0.0. Long recognised by Mayanists as a pivotal turning point, this date serves not merely an anachronistic zero date for the current era but was also framed as a mythic reckoning point for the Maya Long Count.

Over the past three decades, texts referencing mythological events on the eve of this pivotal date have come to light, revealing intricate narratives about deities and their deeds in primordial time. Whereas some primordial dates are implied through calendrical notations known as "ring numbers", texts with complete Baktun 12 Long Count dates remain exceptional.

This rarity makes the recent discovery at Tulix Mul, in northern Belize, particularly significant. There, a partly faded text—rendered in fine brushwork on the walls of a shrine—fortuitously preserves a fragmentary mythological account, headed by one of the few securely attested Baktun 12 dates. This paper introduces the Tulix Mul text, examines its archaeological context, and explores the implications for our understanding of ancient Maya conceptions of measured mythic time, emic conceptualisations of deep time and their regional manifestations, as well as their intriguing connection to the 819-day calendar.

Albert Davletshin **(Universidad Veracruzana)** & Sergei Vepretskii **(Researcher)**

Non-numerical Glyphs D of the Lunar Series in Classic Maya Inscriptions

The Ancient Maya had a fascination with cycles of time as we can see from the calendrical records, which constitute a good third of Classic Maya texts. The Lunar Series of Maya hieroglyphic inscriptions still presents some intriguing mysteries. It starts with the Glyph D indicating how many days – represented by the numerals from one to 29 – passed since the Moon had arrived, 'huliiy'. On rare occasions though, the numerals are missing, and, even more rarely, the verb huliiy is missing too. David Stuart (2020) published decipherment of two such non-numerical expressions: "earlier today" and "yesterday the

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Moon came". The main objective of our paper is to present the results of a systematic study in the non-numerical Glyphs D.

We have been able to identify eight more non-numerical variants so far, almost all of which refer to the first lunar phase, when the luminary is not visible to the naked eye. The most intriguing of these are: "the gods were first to see (the Moon)", "(the Moon) came growing older", and "(the Moon) is inside of the centipede". One of the identified glyphic collocations allows us to offer a new reading proposal: MAN, "to pass by, leave". We hope to be able to show that non-numerical Glyphs D can significantly contribute to our understanding of Classic Maya lunar records and Maya hieroglyphic writing.

Andreas Fuls **(Technical University Berlin)**

Dating of Astronomical Phenomena in the Dresden Codex and Beyond

The Dresden Maya handbook (Codex Dresdensis) is known worldwide for its unique astronomical tables. While the original manuscript dates to the Postclassic period, the astronomical content is based on copies from different eras. From this, a development in Mayan astronomy can be deduced that goes back to the Early Classic period.

Astronomical phenomena such as zenith passages of the Sun, solar and lunar eclipses and heliacal risings and settings of Venus have been recorded since at least the Early Classic period and linked to the cycles of the Mayan calendar, making it possible to derive relatively accurate predictions at the end of the Classic period. Correction cycles can be derived from the astronomical tables on the visibility of Venus and possible solar eclipses to synchronise astronomical calculations with observations. This enabled the Maya to make their astronomical predictions more precise adding up only a few days each century.

Astronomical dating methods are therefore much more accurate than scientific dating methods used in archaeology. However, the cyclical nature of the calendar and astronomical events leads to the problem of ambiguity in the dating of astronomical phenomena. To solve the ambiguity, an iterative method is presented, which also takes into account the varying accuracy of astronomical data. Backed up by scientific dating methods such as radiocarbon and obsidian hydration dating, the astronomical tables of the Dresden Codex can thus be dated precisely to the day and localised regionally through comparison with monumental inscriptions to trace the beginnings of Maya astronomy.

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Jakub Špoták **(Comenius University Bratislava)**

Tracing the Movement of Constellations: Evidence for a Possible Second 364-day Calendar Table in the Paris Codex

The constellation pages of the Paris Codex represent one of the most intriguing sections of this Maya manuscript and have long attracted attention from scholars working in Maya astronomy, iconography, and epigraphy. While previous research has often focused on identifying the animals as either zodiacal or non-zodiacal constellations—depending on whether they can be associated with the ecliptic—less attention has been given to the internal calendrical structure that organizes this sequence. The well-known table between the animals marks 28-day intervals, corresponding to the approximate period in which constellations rise above the horizon and shift in visibility. However, the extant manuscript also contains indications that a second, now-lost calendar table may have originally occupied the lower portions of pages 23 and 24.

In this paper, I place less emphasis on the so-called eclipse glyph and instead focus on the reconstructed calendar table and its implications for understanding the organization of the sequence. Special attention is given to the presence and distribution of Tzolk'in dates in the Paris Codex. By examining how these dates are arranged and how they interact with the surrounding imagery, I argue that the Tzolk'in structure may have played a more significant role in the conceptual framing of the constellation pages than previously recognized. This approach offers a fresh perspective on the calendrical logic underlying this part of the codex.

Natalie Korobzow **(Max Planck Institute for Evolutionary Anthropology)**

A Database for the Study of the Co-Evolution of Vigesimal Numeral Systems and the Calendar in Mesoamerica

Vigesimal numeral systems are a key linguistic trait in the classic definition of Mesoamerica as a linguistic area (Campbell, Kaufman & Smith-Stark 1986). Their use is especially salient in one of the region's central cultural traits – the calendars (Coe & Houston 2022: 56–57). The assumption that the two traits co-evolved (which will be addressed in the talk) enables us to approach the question of how the calendar evolved linguistically by analyzing the evolution of numeral systems.

This talk introduces a new database of Mesoamerican numerals consisting of all attested instances of numeral systems (organized by source) including a compositional analysis of

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every single numeral. The database allows for systematic study of variation, especially in the dimensions of time (diachronic change) and space (e.g., dialectal diversity).

Possible applications include: 1) the reconstruction of the numeral systems of proto-languages of Mesoamerica (or refinements thereof), 2) the study of how numeral systems of individual languages have changed over time with the identification of possible influences as well as 3) the linguistic reconstruction of the prehistory of numeral systems in the region with an assessment of the roles that inheritance and contact may have played.

I am looking forward to feedback from conference participants that will help shape the database into a maximally useful research tool for scholars from different fields.

Jan Naumenko (Independent researcher) & Sergei Vepretskii (Researcher)

Breaking the Lunar Code: Astronomy and Mathematics of Classic Maya Supplementary Series

The Lunar Series in Classic Maya hieroglyphic inscriptions have been recognized for more than a century by now, however the exact mechanics of lunar calculations remained an uncracked mystery. Due to the large database of lunar dates collected by the authors and the remains of an astronomical table in Xultun, discovered in 2012, mathematical and computer science methods became applicable to the problem. While being nontrivial from the mathematical standpoint, it proved to be solvable. The computation method of Maya lunar dates was reconstructed and will be discussed during the presentation.

The main mathematical idea of the lunar calendar was identical for the whole Maya area, yet it was applied differently in different places and times, creating a complex and non-uniform picture. Two main systems were identified by the authors, as well as some of their lesser variations. One of them counts a lunar month from the day when the new crescent appears in the sky. The other one does the opposite, counting the month from the moment when the old crescent disappears. The former system, predominant in the Early Classic, was gradually replaced by the latter one that became the main system of the Late Classic, driving the older system out to the periphery. This process took place approximately in the 5th — 6th century CE and was not by any means straightforward. It will be shown in the presentation how the aforementioned process unfolded and how the political situation in the Maya area influenced it.

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Bruce Love (Anthropological Research Contributions)

To Honor the Ancestors: How a Review of the Daykeepers' Craft Over Two Thousand Years Might Resolve the Correlation Question

Today in the Guatemalan Highlands, all the daykeepers of the cholq'ij (tsolk'in) are on the same day, and the only correlation constant that fits the current day count is 584283. For there to have been a different correlation in the Maya Classic Period there would need to have been a shift sometime between the Classic Period and today.

This paper traces a series of "double dates," dates that are recorded both in the Maya tsolk'in and the Western Gregorian Calendar, and demonstrates continuity from today's daykeepers through the time of the Spanish invasion. Further continuity extends to the Postclassic, the Classic, and the Preclassic with no apparent break or shift in the count of the days, therefore supporting the 584283 correlation for the Classic Period.

In 2012 Simon Martin and Joel Skidmore proposed a new correlation based on an eclipse event at the site of Santa Elena Poco Uinic, conceding that for their proposed correlation (584286) to be true, today's daykeepers and the Classic Maya daykeepers would not be in sync. It is difficult, almost beyond reason, to think of a scenario in which Mesoamerican daykeepers met and agreed on a shift sometime in the Postclassic whereby they all shifted three days.

Instead, by demonstrating unbroken continuity for the last 2,000 years, this paper supports the 584283 correlation throughout Maya history, and presents an alternative explanation for the date given on the Poco Uinic stela, the anniversary of a king's accession that happened very near to an eclipse event.

Victor Castillo (Jagiellonian University)

Layers of Conquest and Revival: The Chronologies of the Postclassic Maya Highlands

The late precolonial Maya history has been the topic of intense debate from ethnohistorical and archaeological standpoints. Not surprisingly, different lines of evidence have produced dissimilar chronologies and reconstructions of historical trajectories. For the Maya Highlands, textual evidence from the early colonial period was interpreted in early Maya research as evidence of migration, invasion, and conquest of "Mexicanized" peoples moving into Maya lands. Archaeological data, however, hints a more complex scenario in

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which local persistent traditions lack the imprints of significant demographic movements. Moreover, the arrival of the Spanish during the sixteenth century adds another layer of complication when historical and archaeological data get confronted. Recently recovered archaeological and historical data from the Mam Maya region around the basin of the Selegua River, in northwest Guatemala, shed new light on the issues of the chronology of the Postclassic period in the Maya Highlands. These data outline three important scenarios: 1) the flourishing of the western Guatemalan Highlands during the Early Postclassic period, 2) the expansion of the K'iche' Maya across the Highlands during the latter part of the Postclassic with the concomitant reconfiguration of geopolitical landscapes, and 3) the persistence and even revival of architectural traditions and Maya building practices during and after the Spanish invasion. By stressing the tension between the ethnohistorical and archaeological records, research in the basin of the Selegua River questions the traditional narratives of decadence assumed for the Postclassic period and provide new information to refine established chronologies in the Highlands.

John Chuchiak (Missouri State University)

Apocalyptic Visions of Freedom: The Prophetic Roots of Colonial Maya Rebellions, 1546–1790

During the sixteenth and seventeenth centuries the Yucatec Maya engaged in numerous violent rebellions against the Spanish colonizers and their Maya collaborators. Religious discontent and supposed apocalyptic prophesies connected to Maya cyclical time and predictions by Maya Shaman-Priests reportedly motivated many of these localized colonial rebellions. The purpose of this paper is to address and investigate the significance and impact of religious conflict and the timing of Maya apocalyptic prophesy as a motivating factor in several colonial Maya rebellions and local revolts. This paper argues that the Maya used violent rebellion to ensure the survival of their traditional religious beliefs, and often these revolts and attacks continued to follow aspects of Maya calendrical and astronomical movements and timing. Both the various rebellious Maya leaders and the Spanish authorities claimed that these colonial revolts were based on Apocalyptic Maya prophesies related to calendrical cycles which reportedly predicted the violent overthrow of the Spanish regime. This paper will examine how Spaniards and Mayas both used reported claims of Maya apocalyptic prophesy to justify their actions. While the Maya rebel leaders and their priests used predictions, calendrical cycles and astronomical phenomena to anchor their apocalyptic prophesies to gain support for their rebellions, the Spaniards continued to use rumors of the existence of apocalyptic Maya prophesies and calendrical cycles of time predicting the destruction of the Spaniards to justify their fears of widespread Maya rebellions which in turn helped to justify their continued colonial repression of the Maya.

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ISBN 978-80-89027-80-4