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Research Article

Calendars, Kings, and Modernity: The Reconstruction of Public Time in Nineteenth-Century Siam

ปฏิทิน กษัตริย์ และความเป็นสมัยใหม่: การประกอบสร้างเวลาสาธารณะของสยามในคริสต์ศตวรรษที่ 19

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คำสำคัญ: เวลา, เวลาสาธารณะ, ปฏิทินสยาม

Abstract

Background and Objectives: Faced with the challenges of colonialism and the need to adapt to modernity from the late 19th century to the early 20th century, Siam underwent significant transformations in many aspects. Numerous works have explored how Siam responded to colonial pressures and modernizing forces. For example, Peleggi (2002) examined how Siam adjusted to Western modernity through material culture, while Winichakul (1994) analyzed the adoption of modern cartographic technologies and concepts that led to the emergence of the modern Siamese state. However, modernity is closely connected to conceptions of time. This article explores the transformation of Siamese temporality in the 19th century, culminating in the emergence of the Siamese calendar. It examines the evolution of 'public time'—a concept encompassing the collective understanding of the past, present, and future—and how these shifts in time perception led to the Siamese elite's attempt to create a national calendar as a tool to control time.

Methods: This article employs the historical method, with a particular emphasis on the intellectual history approach, to scrutinize both primary and secondary sources. Special attention is given to the state documents and the materials produced by the Siamese elite, especially those related to the conceptions of time. These sources are analyzed within the conceptual framework of public time, which encompasses ideas and experiences of the past, present, and anticipated future. Through this framework, the study seeks to elucidate how temporal changes were articulated and represented within Siamese society.

Results: The study finds that economic growth since the early Rattanakosin period, together with the adoption of Western world-order norms and print technology, gradually synchronized Siam's "time" with modern world time. This process accelerated after the Bowring Treaty (1855), which tightly integrated Siam into the global trading system, resulting in the framework of "public time" shifting from an older regime to a newer one. In this transition, ideas and experiences of the "present" were disembedded from the Traiphum worldview and reoriented toward a present synchronized with the global community. At the same time, the meanings of ideas and experiences concerning the "past" and the "future" were rearranged under civilizational values and rationality according to the logic of "civilization." These changes compelled Siamese elites to manage this "new set of public time" by creating a new calendar in order to incorporate people's "private time" into alignment with the state, while establishing a national time within the new global order and still preserving certain sacred dimensions of time from the old calendar.

Application of this study: By revealing the intricate process behind the transformation of time in Siam and the emergence of the Siamese calendar, this research not only deepens our understanding of the concept of time in Thai society but also prompts further reflection on how Thailand has negotiated modernity—a historical legacy that continues to resonate in the contemporary era.

Conclusions: In their efforts to adapt to and control modern time, the Siamese elites defined public time through the creation of a new calendar system. The creation of the new calendar was done in three significant steps. The first step involved the standardization of timekeeping practices and the establishment of royal authority over the societal conception of time. The second step emerged from the creation of a distinct religious ceremonial calendar, separate from the civil calendar. The final step was the development of a 'solar-lunar calendar,' which aimed to harmonize traditional Siamese temporal structures with Western concepts of time. This integration marked an effort to consolidate the once-divided traditional and modern calendars into a unified system, reflecting the monarchy's endeavor to establish a unified "national time."

บทคัดย่อ

ที่มาและวัตถุประสงค์: ภายใต้ความท้าทายของการล่าอาณานิคมและความจำเป็นต้องปรับตัวสู่ความเป็นสมัยใหม่ ตั้งแต่ปลายคริสต์ศตวรรษที่ 19 ถึงต้นคริสต์ศตวรรษที่ 20 สยามได้เผชิญการเปลี่ยนแปลงสำคัญในหลายมิติ งานศึกษาจำนวนมากได้ศึกษาว่าสยามมีการตอบสนองแรงกดดันจากอาณานิคมและแรงผลักดันให้เกิดความทันสมัยอย่างไร เช่น Peleggi (2002) พิจารณาว่าสยามปรับตัวเข้ากับความเป็นสมัยใหม่แบบตะวันตกผ่านวัฒนธรรมวัตถุอย่างไร ขณะที่ Winichakul (1994) วิเคราะห์การรับเอาเทคโนโลยีและมโนทัศน์การทำแผนที่สมัยใหม่ซึ่งนำไปสู่การเกิดขึ้นของรัฐสยามสมัยใหม่ อย่างไรก็ดีความเป็นสมัยใหม่นั้นมีความเชื่อมโยงอย่างใกล้ชิดกับแนวคิดเรื่องเวลา บทความนี้จึงมุ่งศึกษาการเปลี่ยนรูปของภาวะเวลาแบบสยามในคริสต์ศตวรรษที่ 19 ซึ่งบรรจบลงด้วยการเกิดขึ้นของ “ปฏิทินสยาม” โดยตรวจสอบวิวัฒนาการของ “เวลาสาธารณะ” ซึ่งหมายถึงกรอบความเข้าใจร่วมกันเกี่ยวกับอดีต ปัจจุบัน และอนาคตว่าการเปลี่ยนแปลงการรับรู้เวลาเหล่านี้ได้นำไปสู่ความพยายามของชนชั้นนำสยามในการสร้าง “ปฏิทินแห่งชาติ” เพื่อเป็นเครื่องมือควบคุมเวลาได้อย่างไร

วิธีการศึกษา: บทความนี้ใช้ระเบียบวิธีประวัติศาสตร์โดยเน้นแนวทางประวัติศาสตร์ความคิด เพื่อวิเคราะห์หลักฐานทั้งชั้นต้นและชั้นรอง โดยจะให้ความสำคัญเป็นพิเศษกับเอกสารของรัฐและวัสดุที่ผลิตโดยชนชั้นนำสยามในเรื่องที่เกี่ยวข้องกับมโนทัศน์เรื่องเวลา แหล่งข้อมูลเหล่านี้ถูกวิเคราะห์ภายใต้กรอบความคิดเรื่อง “เวลาสาธารณะ” ซึ่งครอบคลุมทั้งแนวคิดและประสบการณ์เกี่ยวกับอดีต ปัจจุบัน และอนาคตที่คาดหวัง ผ่านกรอบนี้ งานวิจัยมุ่งอธิบายว่าความเปลี่ยนแปลงด้านเวลาได้รับการถ่ายทอดและถูกทำให้เป็นภาพแทนภายในสังคมสยามอย่างไร

ผลการศึกษา: งานศึกษาพบว่าการขยายตัวทางเศรษฐกิจตั้งแต่ต้นกรุงรัตนโกสินทร์ประกอบกับการรับเอาบรรทัดฐานของระเบียบโลกตะวันตกและเทคโนโลยีการพิมพ์ ค่อย ๆ ทำให้ “เวลา” ของสยามสอดประสานกับเวลาโลกสมัยใหม่ กระบวนการนี้เร่งตัวขึ้นหลังสนธิสัญญาเบาว์ริง (ค.ศ. 1855) ซึ่งผนวกรวมสยามเข้ากับระบบการค้าโลกอย่างแนบแน่น ส่งผลให้กรอบ “เวลาสาธารณะ” ได้เคลื่อนจากระบอบเดิมสู่ระบอบใหม่ ในช่วงเปลี่ยนผ่านนี้ ความคิดและประสบการณ์เกี่ยวกับ “ปัจจุบัน” ถูกแยกหลุดออกจากโลกทัศน์ไตรภูมิ และหันไปสู่ปัจจุบันที่เชื่อมโยงกับสังคมโลก ขณะเดียวกันความหมายของแนวคิดและประสบการณ์เกี่ยวกับ “อดีต” และ “อนาคต” ก็ถูกจัดระเบียบใหม่ภายใต้ค่านิยมของความเป็นศิวิไลซ์และเหตุผลนิยม ตามกรอบคิดของ “ความศิวิไลซ์” การเปลี่ยนแปลงเหล่านี้ผลักดันให้ชนชั้นนำสยามต้องจัดการกับ “เวลาสาธารณะชุดใหม่” นี้ด้วยการสร้างปฏิทินใหม่ เพื่อผนวกรวม “เวลาส่วนตัว” ของผู้คนให้สอดคล้องกับรัฐ พร้อมทั้งสถาปนา “เวลาแห่งชาติ” ขึ้นภายใต้ระเบียบโลกใหม่ โดยยังคงรักษามิติความศักดิ์สิทธิ์บางประการของเวลาในปฏิทินเดิมไว้

การประยุกต์ใช้: การเผยกระบวนการอันซับซ้อนเบื้องหลังการเปลี่ยนแปลงของเวลาในสยามและการเกิดขึ้นของปฏิทินสยาม ช่วยขยายความเข้าใจเกี่ยวกับมโนทัศน์เรื่องเวลาในสังคมไทย และยังชวนให้ไตร่ตรองต่อไปว่าสังคมไทยได้มีการต่อรองและจัดการกับความเป็นสมัยใหม่อย่างไรอันเป็นมรดกทางประวัติศาสตร์ที่ยังคงส่งอิทธิพลมาถึงปัจจุบัน

บทสรุป: ในความพยายามที่จะปรับตัวและควบคุม “เวลา” สมัยใหม่ ชนชั้นนำสยามได้กำหนด “เวลาสาธารณะ” ผ่านการสร้างระบบปฏิทินใหม่ โดยการสร้างปฏิทินใหม่นี้ได้ดำเนินไปในสามขั้นตอนสำคัญ ขั้นตอนแรกคือการทำให้การกำหนดเวลามีความเป็นมาตรฐานพร้อมทั้งสถาปนาอำนาจของสถาบันกษัตริย์เหนือความคิดเรื่องเวลาในสังคม ขั้นตอนที่สองคือการจัดทำปฏิทินพิธีกรรมทางศาสนาที่แยกต่างหากจากปฏิทินตามธรรมเนียมบ้านเมือง ขั้นตอนสุดท้ายคือการพัฒนาปฏิทิน “สุริยจันทรคติ” เพื่อประสานโครงสร้างเวลาแบบดั้งเดิมของสยามเข้ากับมโนทัศน์เรื่องเวลาของตะวันตก การบูรณาการนี้สะท้อนความพยายามที่จะหลอมรวมปฏิทินดั้งเดิมและปฏิทินสมัยใหม่ที่เคยแยกจากกันให้เป็นระบบเดียว อันเป็นความพยายามของสถาบันกษัตริย์ในการกำหนด “เวลาแห่งชาติ” ให้เป็นเอกภาพ

Introduction

From the late 19th to early 20th century, Siam underwent significant transformations as it navigated colonial pressures and modernity. While previous scholarship has explored Siam's adaptation through material culture (Peleggi, 2002) and the adoption of modern technology like cartography (Winichakul, 1994), the question of temporal transformation continues to invite sustained discussion. While earlier studies have examined temporal change in relation to cultural and intellectual shifts (Sattayanurak, 1995 : 10), this article focuses more specifically on calendrical reform as a form of statecraft through which the Siamese state sought to regulate and standardize time. During King Rama IV's reign, modern science was blended with traditional astrology, culminating in the adoption of the Gregorian solar calendar. Yet, this was not a simple import of Western systems—negotiation and adaptation were central, and the lunar calendar persisted in parallel, reflecting the complexity of Siam's temporal transformation.

Standardized calendars, as seen in cases like Meiji Japan, are crucial in shaping national identity and state cohesion. Benedict Anderson (2006 : 24-25) highlighted the role of “homogeneous empty time” in fostering national community, while Partha Chatterjee (1996 : 216-217) cautioned against overlooking enduring local traditions. In Siam, the coexistence of solar and lunar calendars illustrates the negotiation between modernity and cultural continuity. The evolution of the Siamese calendar—eventually including the Buddhist calendar—shows the fusion of indigenous traditions with external influences, contradicting linear or Western-centric models of change.

By analyzing these calendrical changes and the concept of “public time,” this article argues that Siam’s new calendar system was the product of both internal dynamics and external pressures. Rather than seeing temporal reform as a simple binary between tradition and modernity, this study reveals how evolving ideas of the past, present, and future shaped a uniquely Siamese approach to time—making the calendar not just a tool for measurement, but a vital instrument in nation-building.

Research Objectives

This article aims to examine the transformation of Siamese temporality during the 19th century, with particular emphasis on the development of the Siamese calendar. Specifically, it seeks to analyze how shifts in the collective understanding of ‘public time’ shaped the Siamese elite’s efforts to construct a national calendar as a means of temporal control. By doing so, the study investigates how changes in temporal understanding contributed to the creation of a cohesive national identity, reflecting both internal cultural continuities and external influences. Ultimately, this research seeks to illuminate the complex interplay of tradition and modernity in shaping Siamese society and national identity.

Research Methods

This article employs the historical method, with a particular emphasis on the intellectual history approach, to scrutinize both primary and secondary sources. Special attention was given to state documents and materials produced by the Siamese elite, especially those related to the conceptions of time. These sources were analyzed within the conceptual framework of public time. Through this framework, the study seeks to elucidate how temporal changes were articulated and represented within Siamese society.[1]

Research Results

1. Private Time, Public Time and Modern Time

In the West, the late 19th century is was an era of standardised time formation—marked by the spread of ‘public time,’ which came to govern every dimension of human life through the establishment of ‘World Standard Time.’ The

[1] The author is fully cognizant that prior debates on the absolutist state have emphasized the confrontation between “internal continuity” (Eoseewong, 2005) and “external rupture” (Winichakul, 1994), as well as the division between secular and spiritual knowledge (Puaksom, 1997). However, this line of argument constitutes a binary trap that obscures the finer-grained dynamics of temporal thought. In reality, older and newer forms of knowledge and temporality were not sharply demarcated; rather, they became fused and interwoven through the system of print capitalism. This process gave rise to a new “National calendar” that simultaneously defined and served state power, social belief systems, and the monarchy in complex and mutually constitutive ways.

introduction of new technologies played a crucial role in the dissemination and popularisation of this standardised time system (Kern, 1983 : 16). It is undeniable that World Standard Time significantly impacted modern states, compelling even nations outside Western society to conform to this new temporality. However, attributing the rise of public time solely to modern technology may overemphasise its influence. While these technologies profoundly shaped society's perception of time, internal dynamics within societies also contributed significantly to the creation and evolution of public time. Moreover, defining public time as a completely modern phenomenon of the '19th century' risks portraying earlier societies and temporal systems as static and inherently incompatible with modernity. This perspective universalises 19th-century time and frames pre-modern time as merely a precursor to the dominance of public time, overlooking the complexities and adaptability of earlier time systems.

In Siam, prior to its transition into a modern nation-state, a system of public time already existed. However, the distinction between public and private time remained ambiguous. At a practical level, 'objective time' was partially regulated by the state, as evident in the use of the drum tower to mark time, a practise dating back to the 18th century (mid-Ayutthaya period) (Kham Haikan Khunluang Wat Pradu Song Tham, 2012 : 25-26). However, this state-regulated timing was likely confined to certain areas, while people in more remote regions relied on natural observations to determine time. This allowed individual decision-making to play a significant role in shaping time, leading to an overlap between 'objective time' and 'personal time.' Similarly, 'sacred time,' which was closely connected with state and religious rituals straddled the line between public and private spheres. Though sacred time occasionally had practical applications, it often remained partially private, serving the needs of the ruling class rather than being fully accessible to the broader population. When examining the concept of time within this traditional public time system, it becomes evident that these perceptions were dominated by the concept of Trailokya. In this sense, the 'present' held little significance, being subordinated to a 'past' shaped by mythology and religion. Similarly, thoughts and experiences about the 'future' were bound to the 'past.' Time was thus cyclical. This way of conceptualising time profoundly influenced people's daily lives, often leaving them with a nonlinear, non-progressive perception of time. For instance, the idea of recording or celebrating birthdays was not considered important in traditional Siamese society.

The ambiguity surrounding public time raises important questions: When did Siam's modern public time begin? And what were the key factors driving changes in Siamese public time? Based on previous descriptions, it is evident that modern technology in the 19th century played a crucial role in creating a new public time. This new public time not only emerged but also disrupted personal timing experiences, (Kern, 1983 : 12-13) subsuming 'private time' under the control of a state-created 'public time.' This transformation was facilitated through various state mechanisms, including legal systems, bureaucratic processes, and rituals, allowing people to perceive and understand time collectively in a standardised way. These changes had a profound impact, especially in expanding ideas and experiences about the 'present.' Consequently, they also altered how people thought about the 'past' and 'future.' To trace the origins of modern Siamese public time, it is necessary to examine internal dynamics that began in the late 18th century, during the early Rattanakosin period. These earlier developments laid the foundation for the eventual emergence of a new Siamese public time.

2. Time and State Formation

The transformation from 'traditional public time' to 'modern public time' in Siam was driven primarily by modern technology, social changes and state transformation, which served as key foundations for the emergence of the new public time. Before the governmental reforms of the 1880s, the Thai state operated under a regime where the king did not possess absolute authority over all territories and subjects. The subsistence economy and an underdeveloped

transportation system further constrained centralised governance. As a result, the king had to accept a system in which central lords and local governors held significant autonomous power to govern and collect benefits independently. In this type of governance, the king relied on customs and rituals to assert his authority and create a sacred status that would be widely accepted (Sattayanurak, 2015 : 418). Consequently, the concept of time in Siamese society, particularly at the sacred level, held greater significance than time at the objective level.

Although time at the objective level was less significant, it still had its own patterns. For example, during the late Ayutthaya period, areas such as markets operated on a time system primarily based on natural observations. Market hours were often divided into 'morning' and 'evening' sessions (Kham Haikan Khunluang Wat Pradu Song Tham, 2012 : 22). Additionally, time usage among most lower-level individuals, including some civil servants, was neither consistent nor comprehensive. The usage and possession of calendar was also limited. Simon de La Loubère, the French ambassador who visited Ayutthaya during the reign of King Narai (1656–1688), documented that the Siamese used two types of years: one with 12 months and another with 13 months. While the days of the week were counted similarly to those in Europe, (de La Loubère, 1914a : 62–63) months were identified by numbers rather than names. Moreover, Siamese people did not count years based on the number of elapsed eras; instead, they counted years according to the zodiac year. (de La Loubère, 1914a : 64).

In contrast, time at the sacred level was more refined and treated with greater importance, as it was closely tied to the creation of a sacred status for the king in a state that lacked modern bureaucratic systems. Simon de La Loubère recorded that Siamese society maintained two calendric systems: the Buddhasakarat Era and the Chulasakarat Era (de La Loubère, 1914b : 226). However, he also noted that the Chulasakarat Era system was primarily used for astrological calculations. (de La Loubère, 1914b : 227) Similarly, the Buddhasakarat Era system, as he explained, was 'only a temporary basis for astrologers' numbers to be used as another basis for calculations' (de La Loubère, 1914b : 227-228). In sum, these two calendric systems were primarily ritualistic in function. The sacred-level time system was not only meticulously designed but also served as a tool to uphold the power structure of the elite. This focus on rituals meant that the 'calendar system' in Siamese society did not exhibit a continuous nature of time for general use. Instead, it was crafted and adjusted annually for specific rituals, with 'skilled astrologers' amending it as they deemed necessary (de La Loubère, 1914b : 226). Thus, from the Ayutthaya period to the early Rattanakosin period, the meticulous time and calendar systems in Siam were largely the domain of the elite—originated by, used by, and maintained for their benefit.

The expansion of the monetary economy from the early Rattanakosin period onwards significantly influenced changes in Siam. As trade expanded, greater emphasis was placed on 'objective time.' Evidence suggests that during the reign of King Rama II, elites began to 'define the meaning of time' for the year without relying on sacred rituals. This shift is reflected in the royal epic composed during King Rama II's reign, *He Khruan Khao Kap Nakkhattaroek* (Festival Poem). Unlike *Khlong Thawathot Mat* (Twelve Months Poem), which narrates the rituals of each month, this new work uses trade seasons instead of rituals (Prachum Kap Heruea Boribun, 1929 : 21). This transformation highlights an increasing focus on the practical and economic dimensions of time rather than purely ritualistic ones.

At the same time, the expansion of internal trade in Siam during this period led to the development of effective management mechanisms, including the 'accounting' system. This era saw the growth of commercial accounts, which increasingly transitioned from recording in-kind commodities to a more detailed monetary-based system (Constable & Kuasirikun, 2007 : 583-584), and the emergence of other forms of record-keeping, such as the *Records of Rainwater Accounts* by Pavares Variyalongkorn, maintained from 1846 to 1856. These records included specific dates and years, along with explanations of notable events for certain years. Such accounting reflects the broader commercialization of production (Iamchae & Thippimol, 2024 : 39), where rainwater data became a valuable resource for planning and

producing goods. These records also illustrate how some elites during the reign of King Rama III began to shift their ideas and perception of the 'past.' The practise of recording data with precise dates, months, and years introduced a new dimension of comparison between the 'present' and the 'past,' fostering an ability to reflect on and engage with historical data. Furthermore, this development is evident in the adoption of rain-measuring instruments, where explanations were provided using English units of measurement—a clear indication of external influences blending with traditional practices (Somdetphra Maha Samanachao Krommaphraya Pawaret Wariyalongkon, 1928 : 1–2).

However, it would be incomplete to attribute the emergence of ideas about the past and the accounting for rainwater solely to internal dynamics. Examining the content of these records and their context reveals that external factors played a significant role. Specifically, the arrival of the new Western world order introduced new knowledge, such as standardised measurements, which profoundly influenced Siamese society—particularly its commercial systems. This influence disrupted traditional Siamese gauges and led to efforts to measure rainfall rates more precisely. The rainwater accounts can therefore be seen as an early attempt to integrate Siam into the emerging global order. While Siamese society underwent notable changes due to the expansion of its economic system, resulting in more detailed forms of record-keeping, these internal factors alone were insufficient to disrupt the traditional Siamese time system. Furthermore, the monopolistic nature of trade during this period limited broader public involvement in foreign commerce. As a result, the forces driving changes in Siam's public time were largely external, stemming from the influence of the Western world order and the introduction of new timekeeping technologies such as Western 'clocks' and 'calendars.'

The introduction of a new type of 'clock' technology in Siam became widely recognised within society during the reign of King Rama III. Evidence of this can be seen in *Khlong Phap Khon Tang Phasa* (The Poem of a Foreigner) at Wat Pho (Prachum Charuek Wat Phra Che Tu Phon Lem 2, 1929 : 582). Additionally, at the royal court level, Western-style clocks were already in use. This is documented in a letter dated February 18, 1825, from Chao Phraya Phra Khlang to J. Crawford, acknowledging the acceptance of a gold clock sent to King Rama III. (Fine Arts Department, 1975 : 212) The arrival of this new timekeeping technology had a noticeable impact on Siamese society, particularly among the elite. For instance, in 1826, just one year after receiving the gold clock, King Rama III issued a royal decree addressing the issue of timekeeping in Siam.[2] The decree explicitly highlighted the ineffectiveness of traditional timekeeping tools, stating that 'Our city uses a very imprecise tool to count the time' (Chotmaihet Ratchakan Thi 3 Lem 2, 1987 : 61–62). This acknowledgement reflects Siam's growing integration into the global economic system and its realisation that the lack of precise and standardised timekeeping posed a problem. This shift marked the beginning of Siam's adaptation to align its timekeeping standards with those of the rest of the world.

This realisation likely extended to calendars as well. Although Siam was already familiar with the Western calendar during this period, it was printing technology that stimulated new ideas about time and calendars. This integration of Siamese time into 'printing capitalism' was exemplified by The Bangkok Recorder newspaper, first published in 1844. Each issue of the newspaper prominently displayed both the Siamese and Western months and years in its headline. This practise reflects a significant shift in Siamese perceptions of time. Not only did it show that Siamese society was

[2] It is noteworthy that the content of this royal decree is consistent with the 'Royal Regulation on Clocks' issued during the reign of King Rama IV, with a key distinction. The first section of the royal decree of King Rama III includes a reference to a royal command for the revision of royal documents from various regions, specifying the date of the proclamation: 'The 1st day of the 7th waning moon, 1188 of the Chulasakarat era,' corresponding to the year 1826, which falls within the reign of King Rama III (1824–1851). In contrast, the 'Royal Regulation on Clocks' of King Rama IV omits this reference and introduces an additional statement: 'King Mongkut has meticulously studied and calculated the sun's movement throughout all seasons with precise clocks over many years, thus achieving a comprehensive understanding of the matter.' See also Chotmaihet Ratchakan Thi 3 Lem 2 (1987 : 61–62) And Prachum Prakat Ratchakan Thi 4 Phak Pakin Na Ka Suan Thi 1 (1924 : 49–51)

aligning with global time, but it also highlighted how the concept of 'world time' began to integrate Siamese time through the medium of printing capitalism. Consequently, the Siamese lunar calendar became analogous to the new, standardised time system. This integration also encouraged greater precision in how Siamese people approached calendar time. With the month and year printed on each issue, readers could clearly identify their place in the calendar year. Moreover, the regular release of a new newspaper every month heightened awareness of the passage of time, marking the transition from one month to the next.

The phenomenon described above expanded significantly during the reign of King Rama IV, particularly following the signing of the Bowring Treaty in 1855, which firmly integrated Siam into the global trade system. This expansion coincided with the publication of The Bangkok Recorder newspaper in 1865, which was notable for being sold commercially. By the sixth issue, the newspaper began publishing a schedule for ships entering and leaving Bangkok, listing the dates of arrival and departure, ship names, captains, types of vessels, and destinations (Office of His Majesty's Principal Private Secretary, 1994 : 100). Interestingly, this shipping schedule was tailored for Siamese readers, as it used the Siamese lunar calendar for reference. Starting with the 17th issue, the newspaper introduced a section titled 'Calendar and Time for This Month' in its footer (Office of His Majesty's Principal Private Secretary, 1994 : 227). This section included Thai months alongside comparison tables for the Western and Chinese calendars, as well as details on sunrise, sunset, and moonrise times for each day. This reflects the complexities of integrating Siamese temporal practises with global systems during this transitional period. The inclusion of three calendars in the newspaper raises an intriguing question: Why was it necessary to print multiple calendric systems when the Western calendar had already achieved international recognition as the standard?

The question posed above can be explained as follows. First, the inclusion of the Thai calendar alongside the Western and Chinese calendars reflects an effort to integrate Siam's calendar system into the global time framework. Publishing multiple calendars in the same medium highlights not only a move toward familiarising Siamese society with the Western calendar but also suggests the resilience of Siam's internal dimensions. Instead of replacing the Siamese calendar, this integration shows that the Thai, Chinese, and Western calendars were all unified under the system of printing capitalism. Regardless of which calendar Siamese readers chose to use, all were now embedded in the same temporal structure of printing capitalism. Second, the inclusion of the Siamese calendar in the capitalist system of printing also demonstrates how traditional beliefs, such as auspicious times and moments, were absorbed into this modern framework. This integration reflects how elements of ritual time—once purely sacred—could be commodified within the printing economy. The fact that printed calendars and newspapers were for sale further emphasises that ritual time remained significant to the public and was thus marketable. Finally, the enduring importance of ritual time is evident even in the reign of King Rama V. For example, in Western newspapers during the 'Siam Sa Mai' period, readers from Siam continued to send questions to the newspapers asking for the precise date of 'Songkran Day' (Tamra Thi Cha Kamnot Mahasongkran, 1883 : 2). This demonstrates how deeply traditional calendar systems and rituals remained relevant, even as they were incorporated into modern systems of communication and commerce.

These underlying reasons clearly demonstrate that Siam's transition into a modern state did not entail the outright overthrow of the traditional time or the dominance of the new. Instead, Siam's entry into modernity and the formation of a new public time occurred through a fusion of traditional and new temporal systems intricately woven together with printing capitalism. It becomes evident that the new Siamese public time was not solely based on the principles of rationality rooted in modern science. Instead, it also incorporated elements of sacred time into the framework of the new public time, reflecting a uniquely Siamese approach to modernity.

The shift in the perception of time, driven by the advent of printing capitalism, led to a profound transformation in how time was conceptualised and experienced within Siamese society. This was particularly evident in the increasing significance of the ‘present,’ which began to move away from the traditional reference to Trailokya. In the Trailokya worldview, the ‘present’ was not given much significance. Instead, the ‘past,’ understood as the realm of karma, was seen as determining the present, with events in the ‘present moment’ being explained as the consequences of past actions. Consequently, the ‘present’ was viewed as less significance compared to the ‘past.’ Similarly, the ‘future’ under Trailokya was tied to the concept of Pañca Antaradhãna, where time was believed to be decreasing, making thoughts of the ‘future’ loom larger than those of the ‘present.’ This rendered the ‘present’ merely a not so important transitional period situated between the ‘past’ and the ‘future.’ The expansion of printing technology, however, brought about a significant change. It allowed Siamese society to engage in ‘simultaneity’ with the global community, creating a shared temporal experience with the rest of the world. This simultaneity redefined the meanings of Siam's ‘past’ and ‘future.’ Being connected to the global community introduced new values tied to the idea of ‘civilisation,’ which became the foundation of an ‘expected future’ for Siamese society and the state. This new perspective also reshaped how the ‘past’ was perceived, emphasising its importance as a source of identity. This reinterpretation of the ‘past’ became a critical mechanism for organising relationships both within Siamese society and with the global community, positioning it as the cornerstone of civilisation. These changes reflect the disintegration of Siam's ‘old public time,’ which was previously fragmented and disconnected from the ruling class.

Advancements in timekeeping technology led to a more refined perception of time among people in Siamese society. Additionally, changes driven by both external and internal dynamics became a pivotal turning point, shaking the foundations of Siam's ‘traditional public time.’ In this state of transition, individuals' ‘private time’ increasingly drifted out of the control of the state. This shift necessitated the involvement of the Siamese elite in addressing and shaping the ‘new public time’ that was emerging and expanding within society. This new public time aimed to integrate individuals' ‘private time’ into a collective time that aligned with the elite's and the state's perceptions of the ‘past,’ ‘present,’ and ‘future.’ These processes are most clearly exemplified in the creation and adaptation of the Siamese calendar, which served as a tool to unify time under this evolving temporal framework.

3. The Emergence of the Modern Siamese Calendar System

Benedict Anderson’s concept of nations as imagined communities traces its origins to the rise of print capitalism, which enabled the decline of sacred languages and the proliferation of vernacular ones. This shift fostered a sense of temporal simultaneity within specific language communities. This linguistic transformation through printing capitalism thus led to the rise of popular nationalism. In response, rulers sought to preserve their power base through a process Anderson termed ‘official nationalism.’ This approach involved uniting diverse populations under a royal mandate framed within the ideology of nationhood (Anderson, 2006 : 86–87).

The expansion of time perception through print capitalism, as previously discussed, significantly refined how people in Siamese society understood time. It also led to a shift in thinking and a new experience of time that diverged from traditional public time. This transformation allowed Siamese society to synchronise temporally with the rest of the world. This pivotal change in Siam's public time was accompanied by a newfound precision in timekeeping, which granted individuals the status of ‘time holders’ through their consumption of news and information. This phenomenon fostered a sense of shared community, mediated by Western publications. In response to these changes, the Siamese elite began creating a new public calendar and redefining the meaning of public time to align with society’s evolving temporal experiences. These efforts can be traced back to the reign of King Rama IV and continued thereafter. To better understand

the processes involved in creating this new calendar system, these developments can be categorised into three waves: the king's role in time management, the standardisation of the old calendar, and the creation of the solar-lunar calendar, spanning from the late reign of King Rama IV to the early reign of King Rama V.

In 1854, King Rama IV issued the 'Announcement of Tax Tariffs' and distributed it to every district and sub-district, ensuring that the populace was uniformly informed about tax regulations. This announcement marked the beginning of direct communication between the King and his subjects, fostering a sense of belonging to the kingdom and ensuring the dissemination of standardised information. Beyond such announcements, newspapers were also introduced during his reign, including the *Royal Gazette* (1858–1859), which featured both royal court news and general reports. These printed materials served as tools for creating a 'national community' and connecting the state with society (Sayam Phim Phakan: Prawattisat Kan Phim Nai Prathet Thai, 2022 : 537–538). The proliferation of printed media during King Rama IV's reign was not only a mechanism for fostering mutual awareness but also an effort to establish uniform standards within Siamese society. King Rama IV's use of printing and writing symbolised his efforts to consolidate power within the kingdom. By framing his authority through shared thoughts and experiences in the 'present,' he sought to align society's operations with the monarchy at its centre. This strategy laid an important foundation for the eventual emergence of the absolute monarchy in Siam. However, during this period, economic and political conditions did not yet allow King Rama IV to fully centralise power, as much of the authority remained in the hands of central lords and influential local families (Sattayanurak, 2014 : 20).

King Rama IV's management of time extended to printed media, where he established standards for 'writing time' (Prachum Prakat Ratchakan Thi 4 Phak 2 Prakat Pi Khan Phoso 2397 Pi Tho Phoso 2398, 1922 : 38) and defining related terms for consistent public use (Prachum Prakat Ratchakan Thi 4 Phak 4 Prakat Pi Mamia Phoso 2401, 1923 : 32–33). Over time, this initiative evolved into a means of asserting royal authority, embedding the monarchy into the an emerging new 'public' time that penetrated daily life. For example, King Rama IV mandated the use of the 'year of the reign' as a reference in official records, replacing traditional eras (Prachum Prakat Ratchakan Thi 4 Phak 2 Prakat Pi Khan Phoso 2397 Pi Tho Phoso 2398, 1922 : 41–42). This standardization extended to historical references, requiring the notation of past kings' reign years (Prachum Prakat Ratchakan Thi 4 Phak 2 Prakat Pi Khan Phoso 2397 Pi Tho Phoso 2398, 1922 : 64). Another significant development was the introduction of the term 'Rama,' which was widely adopted by the elite and general populace to define historical periods by a king's reign rather than traditional historical eras. This approach reshaped perceptions of the 'present' and redefined the 'past.' Through these measures, the monarchy's private past was transformed into a 'historical past,' creating a shared narrative that belonged to society. This transformation marked the foundation for a collective historical narrative and the development of national history.

King Rama IV also sought to redefine time at a sacred level, ensuring that the state's ritual time became a mechanism for fostering a shared sense of time, aligned with new temporal experiences and ideas. This effort is particularly evident in the *Songkran Announcements*, which explained astrological knowledge and the methods for determining Songkran Day. Some editions included guidelines on 'Formats for Writing Months and Years' (Prachum Prakat Ratchakan Thi 4 Phak 4 Prakat Pi Mamia Phoso 2401, 1923 : 4–5) and explanations of celestial phenomena, such as lunar eclipses (Prachum Prakat Ratchakan Thi 4 Phak 5 Prakat Pi Mamae Phoso 2402 Pi Wok Phoso 2403, 1923 : 37–38). These announcements reflect an effort to address the expanding concept of the present within society, encouraging collective interpretation and alignment with the state's framework of ritual time. At the same time, King Rama IV recognised the emergence of 'private time,' shaped by individual ownership of time through purchasable timekeeping tools. To address this, he redefined 'private time,' integrating it with national values and the global capitalist system. For example, in the *Songkran Announcement, Year of the Dog* (1862), King Rama IV explicitly defined the meaning of life for

his subjects, encouraging virtuous living through merit-making and avoiding carelessness. This meaningful framework became a model for subsequent announcements throughout his reign (Prachum Prakat Ratchakan Thi 4 Phak 6 Prakat Pi Cho Phoso 2405 Pi Kun Phoso 2406 Pi Chuat Phoso 2407, 1923 : 8–12).

While King Rama IV attempted to standardise time perceptions and align them with new public time, the lunar calendar used in Siam during this period remained rooted in traditional public time. However, evolving temporal experiences increasingly exposed the lunar calendar's limitations, particularly in its application to Buddhist rituals (Maihet Patithin Pakkhakhanana Phoso 2567, 2024), which were now interpreted through new ways of thinking. These inconsistencies with the Buddha's intentions led to the creation of the *Buddhist Calendar*, also known as the *Pakkhanana Calendar*. This calendar served as a guide for calculating the number of days in a lunar month, (Mongkut, 1969 : 203) featuring two fortnights: the 'absent fortnight' (14 days) and the 'complete fortnight' (15 days). Unlike the Siamese lunar calendar, the Pakkhanana Calendar did not adhere to the convention of assigning 29 days to odd months and 30 days to even months. Additionally, it employed a more flexible intercalation system, adjusting the year's cycle based on completeness (Maihet Patithin Pakkhakhanana Phoso 2567, 2024). The Pakkhanana Calendar marked the emergence of new temporal criteria while remaining rooted in observable phenomena. Its introduction, however, led to a lack of uniformity in calendrical systems, resulting in diverse temporal frameworks within Siamese society.

The two waves of change described above somewhat overlap but illustrate Siamese society's transition from 'traditional public time' to 'new public time.' During this transformation, the Siamese elite leveraged printing technology to establish uniform temporal standards, leading to the restructuring of the calendar system. These changes encompassed both objective and sacred dimensions of time. The elite's response to new public time sought to harmonise traditional time systems with emerging ones, facilitating the gradual modernisation of the Siamese calendar. This modernisation unfolded over an extended period rather than as an abrupt transformation. Moreover, the mission to establish cohesive public time influenced subsequent elites, such as King Rama V, whose reign was marked by the centralisation of power and the emergence of absolute monarchy. This underscores how changes in time management and perception were deeply interconnected with broader political and administrative transformations.

After the accession of King Rama V, Siam continued its quest to develop a calendar that could accommodate evolving perceptions of time and empower the state's control over new public time. During this period, the Siamese elite placed significant emphasis on comparing and integrating different calendric systems for practical usage, particularly within elite circles. One prominent figure in this endeavour was Prince Devawongse Varoprakar (1858–1923), who played an active role in calendar development, starting with the publication of *Court, Official News* (1875–1876). From the *9th month, 1238 Chulasakarat* (1876 AD) edition onward, the calendar composed by Prince Devawongse was included in this publication. This calendar compared the Siamese lunar calendar with the European calendar, dividing months into two parts: the *waxing moon* and the *waning moon.* The publication stated, 'Because we hope to be able to use it in the 10th month for a full month' (Krom Phraya Phanuphanthuwongwondet, 1923b : 303). This division became more effective when newspapers adopted it, aligning the Siamese lunar calendar's phases with publication schedules. However, this comparison highlighted inconsistencies, as the Siamese lunar calendar often failed to align seamlessly with the Western calendar. For example, overlapping months between the two systems created inconsistencies, demonstrating that the Siamese lunar calendar was inherently unable to integrate with other calendars seamlessly. Each entry in the Siamese calendar had to be accompanied by comparisons with other calendar systems, reflecting its limitations. Moreover, using the lunar calendar to schedule events or appointments often led to inaccuracies (Krom Phraya Phanuphanthuwongwondet, 1923a : 68), particularly in Buddhist ceremonies, which relied on a separate calendar system requiring complex calculations or astronomical observations. These challenges sometimes resulted in incorrect scheduling for significant

rituals (Krom Phraya Phanuphanthuwongwondet, 1923a : 484). Despite these issues, the traditional calendar remained highly significant in the eyes of the Siamese elite, as it continued to dominate the beliefs and practises of Siamese society and the state. The elite worked toward integrating the lunar calendar with the Western calendar, even though this integration often took the form of side-by-side calendar comparisons rather than a seamless convergence.

The efforts of the Siamese elite to align the traditional calendar system with the Western calendar while creating a new state-defined public time ultimately culminated in the *Royal Decree on the Adoption of a New Calendar, 1888.* This decree marked a significant turning point, shaping the Siamese calendar system and the modern Thai state. The primary outcome of this decree was the adoption of the solar calendar as the official government calendar, effectively eliminating the challenges of calendar comparison by aligning with the Western calendar. This change not only addressed the practical issues of temporal standardisation but also reflected an effort to respond to evolving perceptions of time—encompassing the past, present, and future. The details within the decree highlight its broader significance, demonstrating a deliberate attempt to synchronise Siam's temporality with global standards while simultaneously addressing the changing ideas and experiences of time within Siamese society.

The *Royal Decree on the Adoption of a New Calendar in 1888* outlined three essential elements for an ideal calendar. First, it must be accurate and aligned with the seasons. Second, it should avoid excessive variability in the number of days each year. Lastly, the calendar must be simple and accessible to everyone. The decree further highlighted the shortcomings of the original Siamese calendar in meeting these criteria. Primarily, the Siamese calendar, being a lunar calendar based on the *Suriyatra* textbook, relied solely on the stars. Over a 60-year span, discrepancies of one day would accumulate between the lunar and solar calendars, eventually disrupting seasonal accuracy (Phraborom Ratcha Ongkan Prakat Hai Chai Wan Yang Mai, 1888 : 451–452). Additionally, the Siamese lunar calendar had three different types of years:

1. A standard year with 12 months and 354 days,
2. A leap year with 355 days, and
3. A leap year with 13 months and 384 days.

This structure created confusion, as the difference between a standard and a leap year was minimal, but the 13-month leap year introduced a significant variation in days and months. Such inconsistencies made it challenging to connect the Siamese calendar with other systems. This lack of standardisation hindered the concept of *simultaneity*—a key aspect of modern thinking and societal development. The inability to synchronise with other calendar systems posed practical challenges and symbolised a resistance to the shared sense of *present* that was becoming increasingly significant in a rapidly evolving society.

The decree emphasised that the calendar must be easily perceptible to all people. This principle extended to the clear organisation and the management of the *past* and *future* within the Siamese calendar system. It was noted that if the Siamese lunar calendar continued to be used, reflecting on the past would pose challenges, as it would be difficult to determine which years were leap years or regular years without careful records (Phraborom Ratcha Ongkan Prakat Hai Chai Wan Yang Mai, 1888 : 452). Regarding the *future,* the calendar lacked the ability to function as a self-sustaining mechanism. Instead, it relied heavily on direct observation. Without consistent observation, it would become impossible for future generations to identify whether a particular year was an intercalary or regular year. Additionally, the Siamese elite recognised the limitations of the old calendar, which was projected to remain functional for only 200 years. This constraint highlighted the need for a more robust and enduring system to accommodate the evolving needs of Siamese society (Phraborom Ratcha Ongkan Prakat Hai Chai Wan Yang Mai, 1888 : 453-454).

The limitations of the Siamese lunar calendar, as perceived by the elite, rendered it inadequate for supporting the *past, present,* and *future.* This sentiment reflects not only a shift in the perception of time but also a growing awareness of *National Time*—a framework that ties a nation's historical identity to its aspirations for the future. The inadequacies of the lunar calendar became symbolic of a nation that could not fully reconcile its past with its ambitions for progress. To ensure that the nation's concept of time was coherent and forward-looking, a solar calendar was introduced. This calendar was seen as a stable timekeeping mechanism capable of aligning the nation's historical continuity with its future trajectory. Unlike the lunar calendar, which could lead to inaccuracies over time, the solar calendar offered long-term precision—shifting by only one day every 4,000 years. Its predictability also allowed for more reliable comparisons of societal progress or decline. By adopting the solar calendar, the concept of *National Time* gained a solid foundation, enabling the nation to establish a concrete past while confidently advancing toward an anticipated future. This transition symbolised a shift in societal consciousness, embedding a shared sense of time that aligned with modernisation and national identity.

The introduction of the new calendar system marked a significant shift towards a system more aligned with the Western calendar. However, there were key distinctions, most notably the designation of April 1 as New Year's Day. Additionally, the era system underwent a transformation, replacing the Chula Sakarat Era with the Rattanakosin Era (Phraborom Ratcha Ongkan Prakat Hai Chai Wan Yang Mai, 1888 : 455), based on the establishment of the Rattanakosin Kingdom.[3] This change symbolised a redefinition of the Siamese state, positioning it as a nascent *emerging nation* striving to accelerate toward *civilisation,* embodying an *anticipated future.* The transition also recast the past defined by the Chula Sakarat Era, giving it a neutral status that awaited reinterpretation. This shift allowed for the past to be reimagined and repurposed into a coherent narrative of national history, aligning it with the broader goals of modernisation and national identity formation.

Conclusion and Discussion

The transition to a modern time system in Siam reflected a fusion of old and new temporalities, combined with the rise of print capitalism. This shift enabled the Siamese elite to manage and control the transition by blending the traditional lunar calendar system with the emerging solar calendar. The persistence of the lunar calendar underscored its deep-rooted connection to the cultural and religious beliefs of Siamese society. This duality is evident in the *Royal Decree,* which explicitly preserved the use of the lunar calendar for specific purposes: '...but the method of lunar days, months, and years which has been used in the designation of various monthly royal ceremonies, and if it is observed as a Buddhist holiday, it is better to continue using it as before.' (Phraborom Ratcha Ongkan Prakat Hai Chai Wan Yang Mai, 1888 : 455-456) This statement highlights that the adoption of the solar calendar did not abolish the lunar calendar. Instead, the lunar calendar retained its significance in rituals, Buddhist holy days, and royal ceremonies. Its continued role reflects the creation of a *New Public Time* for Siam—a hybrid temporal system that integrated the solar calendar for broader societal functions while maintaining the lunar calendar for cultural and ceremonial purposes. This dual-system approach symbolised the coexistence of tradition and modernisation in Siam's journey toward a modern state.[4]

[3] The origin of this era can be interpreted in two ways: one interpretation links it to the founding of the Rattanakosin Kingdom, while the other associates it with the Chakri Dynasty.

[4] This article realizes that the establishment of new time in Siam is not a smooth monolithic process. For instance, there were rebellions across the kingdom in 1902 which in a particular aspect connected to the resistance of Bangkok's attempt in establishing new time.

Although the *Royal Decree on the Adoption of a New Calendar (1888)* formalised the move toward a solar calendar, it also preserved the underlying beliefs embedded in the lunar calendar system. Long before this transition, King Rama V recognised the need for systematic organisation related to the lunar calendar. In 1878, he initiated plans to document the calendar's ceremonial aspects, (Chulalongkorn, 1933 : 43–44) resulting in the creation of the *Twelve-Month Ceremony,* which later served as both a reference and a cultural model. Notably, the *Twelve-Month Ceremony* was published in *Vajirayana's Book* between 1888 and 1890, coinciding with the transition to the solar calendar. While some analyses interpret the text as a rational explanation of Siamese ceremonies (Phungsoondara, 2019 : 98-99), it is critical to note that logic in this context did not diminish the ceremonies' sacredness. This point is reinforced in the preface of the *Twelve-Month Ceremony,* where it is stated that although Buddhist Siamese were rational and did not engage in black magic, lingering superstitions continued to influence certain classes of society:

> ...though people in Siam believed in Buddhism and had no reason to practise black magic, Buddhist adherents in the latter class who have not yet attained the path may be afraid of various dangers. As a result, beliefs in superstition remain and '...didn't stop withdrawing. It is but that respect is weak. It's better to do it than not do it. There was no damage at all.
>
> (Chulalongkorn, 1953 : 2–4)

This perspective underscores that the transition to a solar calendar did not entirely supplant the lunar calendar. Instead, the lunar calendar's rituals and beliefs were integrated into Siam's national traditions. The continuation of these customs, rooted in the lunar calendar, ensured that older beliefs persisted within the framework of Siam's modernised time system. The *Twelve-Month Ceremony* played a vital role in preserving these traditions, preventing the complete eradication of superstitious practises and embedding them into the cultural fabric of Siamese society. This dual approach reflected Siam's ability to modernise while respecting its historical and cultural heritage.

Despite Siam's official adoption of the solar calendar, the lunar calendar retained its cultural and practical significance, especially for personal milestones like birthdays and state record-keeping. This enduring relevance is illustrated by the 1904 publication of the Solar and Lunar Date Search Form by Khun Prasat Aksorn (1904), which allowed individuals to convert dates and locate their lunar birthday, underscoring the older system's ongoing importance. Even in state bureaucracy, the lunar calendar persisted—for example, the continued use of lunar dates in official forms after the transition.

As Reynolds (2021) insightfully observed, while modern states are often characterised by a worldview rooted in risk assessment, premodern societies typically embraced fate-driven perspectives. However, the continued belief in practises like divination offers an alternative to pure risk assessment without excluding society from modernity. In such contexts, auspicious times play a critical role in decision-making, determining the optimal confluence of time and place for specific outcomes (Reynolds, 2021 : 223–224). These beliefs, intertwined with emerging modernisation efforts, enabled Siam to navigate its entry into the modern state with both stability and cultural continuity. The advent of print capitalism further accelerated this transition, with the lunar calendar playing a central role in early modern Siam. As both a product and mechanism of the printing system, the lunar calendar helped create *joint-time* communities, uniting individuals through shared temporal frameworks. This integration of the lunar calendar into printing capitalism underscores its foundational role in the early stages of Siam's modern nation-state.

Through the actions of King Rama IV and subsequent leaders, Siam's modern nation-state emerged from the interplay between traditional and modern temporal systems. The fusion of lunar and solar calendars exemplifies the

blending of spiritual and material dimensions of time, each influencing the other. This dynamic process produced a unique temporal framework rich in both old and new beliefs, which continues to resonate within Thai society today. While the *Royal Decree on the Adoption of a New Calendar (1888)* marked a significant milestone in Siam's temporal transformation, it was merely one wave in an ongoing series of changes. These continued evolutions shaped the Siamese calendar system into what Thai society uses today, illustrating the deep and complex relationship between time, culture, and modernity in the formation of the modern Thai state.

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