

The Taosi-Shimao-Xinzha Tri-Capital Axis and the Origins of the Early Chinese State

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Abstract: This paper, grounded in an interdisciplinary research paradigm, proposes a groundbreaking "Taosi—Shimao—Xinzhai" Three-Capital Axis model for the political evolution of the early Xia Dynasty by systematically integrating evidence from textual historiography, archaeology, astro-chronology, and paleography. The study first constructs a precise chronological framework, providing a scientific basis for calibrating radiocarbon dates with ancient historical records.

Addressing the challenge of determining the nature of these capitals, the paper moves beyond the "identity verification" paradigm suitable for individual burials and innovatively proposes a "status identification method" based on the principle of "spatiotemporal exclusivity of power." It further elucidates the decisive role of "material-text mutual corroboration" as a form of generalized inscription.

Building on this foundation, the research achieves two breakthrough discoveries:

First, through the analysis of the graphic structure of the character "堯" (Yao), it demonstrates that its original meaning refers to the observatory at Taosi, and "Emperor Yao" was the ruler who controlled this astronomical sanctuary.

Second, through iconographic comparison, it establishes the genetic relationship between the engraved symbol on the bone spade from burial II M26 at Taosi and the character "禹" (Yu), revealing it as a visual freeze-frame(定格) of "Yu the Great taming the waters."

These two parallel evolutionary chains from "image → character"—"Yao-Observatory" and "Yu-Water Taming Icon"—serve as dual corroboration, jointly unveiling the early visual encoding and transmission mechanism in Chinese civilization characterized by "conveying meaning through vision."

Ultimately, this study not only clearly outlines the trajectory of power migration from Emperor Ku's foundation of Taosi to Shaokang's restoration and consolidation at Xinzhai, reconstructs the authentic "tripod-divination" ritual, but also, from the perspective of civilizational generative mechanisms, deciphers the core code enabling the millennia-long continuity of Chinese civilization: civilizational evolution follows the encoding principle of "Conveying Meaning Through Vision, Shaping Identity: The Civilizational Source Code."

Keywords: Xia Dynasty, Taosi site, Shimao site, capital sequence, kingship authentication, civilization origins

1 Introduction: Reconstructing the Capital Sequence Before and After the Foundation of the Xia Dynasty

The exploration of Xia culture, especially when confronting prehistoric civilizations like Shimao and Taosi which lack "self-authenticating" textual materials, has fallen into a paradox. Demanding such materials from them is akin to demanding that a person still in the womb produce the name they will have after birth.

This paper draws lessons from the history of physics and adopts the scientific research paradigms of theories like Relativity and Quantum Mechanics to conduct an in-depth investigation into the origins of Huaxia. Within the context of the Great Flood, based on ancient text records and existing archaeological data, a "spatiotemporal theory (i.e., hypothesis)" is constructed. Then, systematic

archaeological materials (such as capital site remains, carbon-14 data, artifact assemblages, etc.) are treated as "experimental data" to test this theory. Through a profound dialogue between "theory" and "experiment," the correctness of the "spatiotemporal theory (hypothesis)" is ultimately judged.

Accordingly, the three highest-ranking Longshan-period capitals—Taosi in Shanxi, Shimao in Shaanxi, and Xinzhai in Henan—are not isolated from each other. Crucially, their rise and fall must be examined against the grand backdrop of the global climatic anomaly (the Great Flood period) over 4000 years ago. Carbon-14 dating data (Taosi earlier than and coexisting with Shimao, Xinzhai latest) provides a solid chronological foundation for this sequence. This paper argues that these three capitals precisely correspond to the key historical period from the time of Tang Yao to Yu the Great, extending to the Shaokang Restoration around the founding of the Xia Dynasty. This period encapsulates the ancestors' response to environmental crisis, migration, integration, and ultimately, state formation.

2 The Empirical Cornerstone: Historical Positioning and Successive Relationships of the Three-Capital Axis

2.1 Taosi: The Tang State of Emperor Yao and the Founder of Huaxia Institutions

The Taosi site (c. 2300-1900 BCE) is the starting point of this paper's historical sequence. Its grand scale, exquisite ritual vessels, and advanced astronomical observation facilities highly correspond to the "Pingyang, capital of Yao" recorded in texts. During the Great Flood period, as civilizations like Liangzhu declined, the "holy capital" Taosi, benefiting from its elevated location in the Fen River valley, was able to sustain development. This successful experience also became the strategic basis for the later capital relocation to Shimao.

① The Institutional Materialization of the "Rule of Yao and Shun": The discovery of the Taosi observatory perfectly corresponds to the Yao Dian record of "observing the phenomena of the sun, moon, and stars to respectfully instruct the people in the seasons," embodying the institutional beginning of royal authority organizing agricultural production and regulating social operations through the control of astronomy and the calendar. Its strict social hierarchy (reflected in tomb differences) and ritual-music system (alligator-skin drums, special chime stones) precisely manifest the early state form of "harmonizing the myriad states."

② Historical Positioning: Taosi should be the capital of the "Tang State" established by Emperor Ku, the father of Emperor Yao. It laid the foundation for the ritual institutions, cosmology, and social governance model of the early state, serving as the institutional founder of Huaxia civilization. After Emperor Yao moved the capital to Shimao, Taosi became a secondary capital.

2.2 Shimao: Emperor Yao's Flood Avoidance and the Inception of the Xia Capital

The Shimao site (c. 2200-1900 BCE) coexisted chronologically with the middle to late periods of Taosi. Its sudden emergence on a super-large scale and the extreme luxury of the Huangchengtai terrace must be understood within a specific historical context.

(1) The Archaeological Correspondence of the "Flood Narrative":

The textual record of "the vast floods were wreaking havoc, inundating mountains and surrounding hills" coincides with the global flood event over 4000 years ago. Archaeologically, many settlements of the Henan Longshan culture in the middle and lower reaches of the Yellow River generally declined or were interrupted during this period, objectively reflecting the difficulty for civilizations in low-lying areas to survive. Furthermore, before the Longmen Mountains were breached, they

stood like a giant sluice gate across the Yellow River. A huge ancient Sanmen Lake had already formed upstream. With rising floodwaters, the Taosi capital could no longer rest easy. For Emperor Yao to avoid the floods, moving north to build Shimao as a new capital in the elevated, easily defensible land of northern Shaanxi was a completely rational strategic migration.

(2) The Reinforcement and Innovation of the Royal Paradigm:

The Shimao Huangchengtai, with its astonishing stone architecture, pioneering renmu (reinforced earthen) construction techniques, unprecedentedly comprehensive military defense system, and the ritual practice of embedding jades in walls, pushed the integration of royal and divine authority to a new height and laid the foundation for the layout of later urban architecture. Shimao not only fully inherited the concept of royal authority and the idea of integrating advanced cultures from all quarters pioneered by Taosi but also actively absorbed and fused advanced cultures from various regions. It adapted to local conditions and changing times, achieving a paradigm shift from "Institutional foundation" to "military and theocratic integrated authority." It can be regarded as the political center from the late period of Emperor Yao through the times of Shun and Yu, and the place where Xia royal authority germinated and matured.

2.3 Xinzhai: The Shaokang Restoration and the Revival of the Xia House

The Xinzhai site (c. 1880-1750 BCE), as a key link connecting the late Longshan period and the Erlitou culture, finds a reasonable explanation for its historical role within the narrative of "Taikang's Loss of the State - Shaokang Restoration."

(1) The Archaeological Interpretation of the "Restoration Narrative":

As the Great Flood period ended, the environment of the Central Plains hinterland stabilized, becoming habitable again. Before the emergence of Erlitou culture, the appearance of a large, heavily fortified capital like Xinzhai with double

walls and complex cultural factors on the northeastern foothills of Mount Song precisely reflects the Xia dynasty's efforts to restore the state and return to the Central Plains after experiencing turmoil. This site could serve as the revival capital established by Shaokang after restoring the state, to consolidate rule and distance himself from old political strife.

(2) Cultural Integration and Dynastic Continuity:

The Xinzhai site integrates multiple cultural factors, The phrase exactly reflects the interweaving and integration of various forces during the turbulent years from "Taikang's Loss of the State" to the "Shaokang Restoration." It inherited the core traditions of Xia culture from Taosi and Shimao, and on this basis, innovated through fusion, laying the groundwork for the subsequent resurgence of Erlitou culture.

3 Model Construction: The Dynamics and Logic of the "Three-Capital Axis"

Based on the above positioning, we construct a complete historical-archaeological model:

3.1 Clear Succession Sequence:

Taosi (Emperor Ku / Early-Mid Emperor Yao, Founding Period) → Shimao (Built by Emperor Yao to avoid floods, Inception and Reinforcement Period) → Xinzhai (Shaokang Restoration, Revival and Integration Period) → Erlitou (Flourishing Period of the Xia Dynasty)

3.2 Inherent Historical Dynamics:

① Environmental Pressure: The Great Flood was likely the key external force driving the shift of the political center from Taosi to Shimao.

② Political Struggle: The transition from "abdication" to "hereditary rule," along with the series of political upheavals—"Taikang's Loss of the State - Houyi's Usurpation of Xia - Han Zhuo's Usurpation - Shaokang Restoration"—and the changes in the agricultural-ecological environment after the floodwaters receded, were the core driving forces behind the transfer of the capital from the Shimao region to Xinzhai in the Central Plains.

③ Cultural Inheritance: Despite repeated capital relocations, the core kernel of Xia culture was consistently transmitted—from the ritual music and cosmology of Taosi, to the materialization of royal authority at Shimao, to the restoration and integration at Xinzhai. Please refer to the two images below. Aren't the Xinzhai pattern and the Shimao statue strikingly similar?



4 A Historical Framework Highly Consistent with Ancient Records

4.1 Reconstructing the Spatiotemporal Coordinates of Key Historical Figures

Based on records from texts such as the Bamboo Annals, Records of the Grand Historian, the Canon of Yao chapter of the Book of Documents, and the Centuries of Emperors and Kings: Emperor Yao ascended the throne at age twenty, reigned for seventy years before encountering Shun, and after ninety years on the throne, abdicated in favor of Yu Shun. Yu Shun acted as regent for the Son of Heaven from age fifty, formally ascended the throne at sixty-one, and after thirty-three years of

reign, abdicated the position of Son of Heaven to Yu. Seventeen years after this abdication, Yu Shun died during a southern tour. After the three-year mourning period concluded, Yu retreated to a place called Yangcheng, and with the support of the feudal lords under heaven, Yu formally ascended the throne.

Connecting this with the established start year of the Xia dynasty (2070 BCE) from the Xia-Shang-Zhou Chronology Project, we can reconstruct a precise chronology:

① It can be concluded that, The period from Emperor Yao's ascension to Yu the Great's ascension lasted 140 years. Based on this calculation, Emperor Yao ascended the throne in 2210 BCE. This date highly coincides with the initial construction period of the Shimao ancient city and the legendary period of the Great Flood.

② The Bamboo Annals records, "The Emperor's son Zhi was established, and after nine years was deposed." Combining this with other textual records such as "At thirteen, Yao was enfeoffed at Tao; at fifteen, he assisted Zhi," and "At twenty, Yao replaced Zhi as the Son of Heaven, establishing his capital at Puban," along with Emperor Yao's ascension in 2210 BCE, we can deduce that Emperor Ku died in 2218 BCE. Furthermore, based on the records "seventy-five years" in the Centuries of Emperors and Kings and "sixty-three years" in the Bamboo Annals, we can calculate backwards to determine that Emperor Ku ascended the throne between 2292 BCE and 2280 BCE. It is evident that this period of Emperor Ku's reign aligns with the early phase of the Taosi culture.

4.2 From Emperor Ku's Death to Emperor Yao's Ascension: The Prelude and Substance of the Abdication System

After Emperor Ku's death, his son Zhi succeeded him. However, "Zhi reigned for nine years; his governance was weak, while the virtue of the Marquis of Tang (Yao) flourished. The feudal lords turned to him. Zhi, submitting to his righteousness, led

his ministers to Tang to offer the abdication" (as recorded in the Centuries of Emperors and Kings). This event reveals the essence of power transition in the late period of the Five Emperors era: it was not simple familial hereditary succession, but rather a "system of feudal lords electing a paramount ruler" based on virtue and governing capability.

This system served as the institutional precursor and political foundation that later enabled the Yao-Shun-Yu abdication to be realized, amidst the immense survival crisis posed by the catastrophic floods and against the backdrop of the group strength represented by the super-defensive capital of Shimao.

4.3 Conclusion: The Establishment of the "Taosi-Shimao-Xinzhai" Axis Model and a Verifiable Historical Sequence

Using "Zhi was deposed after nine years" as the crucial key, we have not only precisely anchored the year of Emperor Ku's death but also completely reconstructed the entire process of power transition from Emperor Ku through Zhi to Yao. This signifies that the lineage of emperors underpinning the "Taosi-Shimao-Xinzhai" three-capital axis model has become a verifiable historical sequence with clear beginnings, intermediate stages, and zenith.

This framework demonstrates:

① The Xia dynasty lineage and events recorded in texts such as the Bamboo Annals and the Basic Annals of Xia in the Records of the Grand Historian possess a solid historical foundation and can find clear corresponding coordinates within the archaeological cultural sequence.

② Core ancient historical narratives such as Yu the Great controlling the floods and the Yao-Shun abdication, as well as key archaeological phenomena like the destruction in the late Taosi period and the nearly simultaneous abandonment of both Shimao and Taosi around 1900 BCE, can all receive logically unified and coherent

explanations within this model.

③ The Shimao site is the core key to unraveling the mystery of early state formation in Huaxia. It inherited the institutional essence of Taosi and laid the foundation for the dynastic legacy of the Xia. Its construction and zenith are closely related to the era of Emperor Yao.

④ The Xinzhai site, as a central capital in the later stage of the civilization lineage, is the materialized witness to the "Shaokang Restoration" achieved by the Xia dynasty after experiencing turmoil. It reasonably explains why a regional political center possessing both transitional characteristics and formidable strength appeared before the rise of the Erlitou culture.

5 Construction and Cross-Verification of a Precise Chronological Framework

Based on the "Physics-History Analogy" research paradigm, this study, through systematically integrating the recorded imperial lineage from texts and the established start year of the Xia dynasty (2070 BCE) from the Xia-Shang-Zhou Chronology Project, has successfully constructed a precise chronological coordinate system for the "Taosi-Shimao-Xinzhai" three-capital axis.

Based on the data synthesized above, the total duration from Emperor Yao's ascension to Yu the Great's formal ascension can be calculated via two highly self-consistent paths:

① Path A: Starting from Shun's formal ascension at age sixty-one, the total duration is 140 years.

② Path B: Starting from Shun's regency at age fifty, the total duration is 129 years.

Based on this foundation, reverse inference yields two preliminary conclusions: the year of Emperor Yao's formal ascension was either 2210 BCE (Path A) or 2199 BCE (Path B).

However, a more precise solution lies in a deeper interpretation of the texts. It is recorded that Emperor Yao abdicated in favor of Shun in the ninetieth year of his reign. If the starting point for this count is the year he began assisting Emperor Zhi in governance at age fifteen, then the actual duration from his formal ascension to the abdication was eighty-five years. Calculating based on this core interpretation, the year of Emperor Yao's formal ascension can be precisely pinpointed to 2205 BCE, This year corresponds precisely to the Bingzi year in the sexagenary cycle.

A perfect chronological closure was established: 2205 BCE corresponds exactly to the first year of Emperor Yao, Bingzi year, as recorded in the current version of the Bamboo Annals. The textual records, reign-year calculations, and sexagenary cycle dating converge at a single point, perfectly corroborating each other without deviation.

The significance of this precise dating is profound. It grounds the grand historical narrative: The year 2205 BCE not only marks the peak of the Taosi culture but also strongly corresponds to the archaeological window of the global flood event. For the first time in this critical pre-Xia period, the textual records, astronomical/calendrical calculations, and archaeological cultural phases achieve a solid triple verification.

This precise dating is of profound significance, as it grounds the grand historical narrative in concrete reality: "Emperor Yu of the Xia Hou clan. First year Renzi, assumed the throne residing in Ji, promulgated the Xia calendar to the states." Inferred from astronomical evidence and the data synthesized above, it can be inferred that 2089 BCE corresponds to the "calendar year Renzi," precisely the year when Emperor Shun, in the thirty-third year of his reign, abdicated to Yu. This accession is not the

succession that traditionally occurred three years after Emperor Shun's death, but marks the official commencement of Yu the Great's reign era.

Within the geographical framework of the "Nine Provinces" system initiated by Yu, the province of Ji, possessing the most extensive territory, served as the political center from which the Xia Hou clan commenced its governance. A logically coherent power structure can be reconstructed: following his abdication, Shun continued to reside in the northern capital of Shimao as the venerated sovereign—having reigned for thirty-nine years since his ascension; Meanwhile, Yu, as the supreme commander of the Great Flood control project, established his operational headquarters and seat of administrative power in Taosi, the auxiliary capital. This dual-center model of a "Northern Capital – Auxiliary Capital" not only aligns with the practical dynamics of ancient political administration but also reconciles the textual record stating Yu "assumed the throne residing in Ji" with the historical fact of "Yu's capital being at Yangcheng" — since Taosi is identifiably the ancient Pingyang City, which was conventionally abbreviated as Yangcheng.

Thus, the textual records and the archaeological nature of Taosi as a capital achieve perfect mutual verification. The tomb II M26 within the middle-phase royal cemetery at Taosi perfectly aligns with the aforementioned hypothesis—whether in terms of precise spatiotemporal positioning, clear identification of burial rank, or its unique historical trajectory—providing robust physical evidence for this mutually reinforcing relationship.

6 “Inquiring of the Ding” and “Divination by Ding”: The Mandate of Heaven Authentication System of Early Huaxia Kingship

Chapter Summary: This chapter constructs a core theoretical framework for understanding the logic of power in the early Huaxia state. By analyzing the structure of the character Zhen (真, true/legitimate) and the Allusion of “Inquiring of the Ding,”

it systematically argues for the essential nature of the ding (鼎, ritual cauldron) as a “Mandate-imparting Ritual Vessel.” Applying this theory to reinterpret records such as Emperor Shun’s “shi ji zhen” (始即真, began to be Zhen), the chapter reveals the underlying logic of power transfer during the Yao-Shun-Yu era—namely, the sacred procedure of Mandate authentication completed through the “Divination by Ding” ceremony.

6.1 Theoretical Foundation: The Structure of “Zhen” and the Original Meaning of “Wen Ding” (Inquiring of the Ding)

(1) Explaining “Zhen” (真):

The bronze inscription form of the character Zhen (真), depicting “bu (卜, divination) above ding (鼎, cauldron) below,” presents a complete scene of a spirit-communication ceremony. The ding serves as the ritual vessel containing the sacred covenant. By being fumigated with sacrificial smoke, it enhances the spiritual efficacy of the turtle plastrons or other sacred objects placed within it. The “bu” represents the core ritual act of scorching the plastron and interpreting the cracks. Combined, they accurately express the original meaning of “scorching and divining before the ding to seek the true will of Heaven.” This is the operational procedure materializing the concept of the “Divine Right of Kings.”

(2) Explaining “Wen Ding” (问鼎, Inquiring of the Ding):

Its original meaning refers to the act of placing turtle plastrons inside a ding to scorch and inquire of Heaven’s will. The essence of the King of Chu’s “inquiring of the ding” was not a coveting of the physical object itself, but a challenge to the exclusive privilege held by the Zhou royal house—the privilege of using the ding vessels to communicate with Heaven and confirm the identity of the “True Son of Heaven.” It was thus a demand for the “right of Mandate authentication.”

(3) Core Argument:

The fundamental reason the ding was the paramount ritual vessel lies in its role as the dynasty-monopolized “ultimate channel” and “Mandate authentication terminal” for communicating with Heaven. It was the sole sacred instrument for obtaining the legitimacy of rule.

6.2 The Civilization Logic: The Sacredness of the Ding as the Source Code of Power

The central position of the ding in the “ji zhen” (即真, assuming legitimacy) ceremony determined its supreme symbolic significance in Huaxia civilization:

① As the receiver of the Mandate, any dynastic change (“ge ding” 革鼎, changing the ding) had to obtain Heaven’s final authentication through it.

② As the source code of power, the legitimacy of all secular rule originated from this sacred “Inquiring of the Ding” ceremony.

③ As the cosmological model of order, “Yu casting the Nine Ding and setting the ding in the Central Plains” meant incorporating the chaotic world into the sacred order blessed by the Mandate of Heaven.

④ Theoretical Elevation: The legitimacy of early Huaxia kingship was founded upon the monopoly of the sacred technology of “Divination by Ding.” “The great affairs of the state are sacrifice and war.” Within this conceptual framework, the ding was first and foremost the supreme ritual vessel for communicating between Heaven and humanity. It was because it bore the Mandate of Heaven that it subsequently derived its symbolic meaning for state political power.

6.3 Theoretical Application (I): Interpreting the Yao-Shun-Yu Abdication through “Mandate Authentication”

① A New Interpretation of the Abdication System: Beyond the human-level procedure of the “system of feudal lords electing a paramount ruler,” it was the indispensable “Mandate authentication procedure” that had to be completed.

② The Essence of Power Transfer: It was not only the recognition of human virtue and capability, but more importantly, obtaining the final confirmation of Heaven’s will through “Divination by Ding.”

6.4 Theoretical Application (II): A Deep Reconstruction of Emperor Shun’s “Shi Ji Zhen” Grand Ceremony

The Centuries of Emperors and Kings records that Shun, “in the mid-winter month—jiazi month, with the moon lodging in the Bi constellation, shi ji zhen.” This accurately records this Mandate authentication ceremony:

① “Mid-winter Jiazi” refers to the Jiazi month (the 11th lunar month) of the Guimao year (2118 BCE); “the moon lodging in the Bi constellation” is the celestial phenomenon of the moon passing through the Bi asterism that month. Together, they constituted the optimal “celestial timing” for the “Divination by Ding” ceremony.

② At this astrologically auspicious moment, Shun arranged the ritual ding and personally scorched turtle plastrons for divination, ultimately inquiring whether his rule had received the approval of the heavenly spirits.

③ When the crack omens showed “auspicious,” it signified the heavenly spirits’ final confirmation of his identity as “Earthly Agent,” completing his coronation from a “human ruler” to the “True Son of Heaven.”

④ Conclusion: “Shi ji zhen” was by no means simply “beginning personal rule.” It was a strict, procedural politico-theological term, specifically referring to the new ruler, through the highest-grade “Divination by Ding” ceremony, obtaining the ultimate legitimacy authentication and becoming the rightful “True Son of

Heaven”—Shun formally ascended the imperial throne at age sixty-one (2121 BCE, gengzi year).

6.5 Epilogue:

The imperially transmitted lineage from texts, the culturally established sequence from archaeology, and the Ganzhi calendar years from astronomy converge and are locked onto the early 22nd century BCE, providing precise chronological coordinates for the “Taosi—Shimao—Xinzhai” capital axis.

It must be emphasized that archaeological data—especially “capital” sites as the highest representation of political power—possess an inherent “spatiotemporal exclusivity.” Logically and factually, within the same period and cultural sphere, two equally powerful “paramount rulers under heaven” could not coexist. The “Taosi—Shimao—Xinzhai” three-capital axis model constructed in this paper is precisely a theoretical system derived under the exclusive constraints of these two rigid datasets—carbon-14 dates and cultural sequence—and is the only one that is completely self-consistent within the spatiotemporal framework. Any valuable competing academic hypothesis must propose an alternative capital model that can equally satisfy this condition of exclusivity.

In summary, the model constructed in this paper is not one among many possibilities. Under all currently known constraints, it is the sole systematic explanatory framework capable of integrating carbon-14 chronology, cultural genealogy, environmental context, and the core of the textual records without contradiction.

7 Reconstruction of Methodology: From "Identity Verification" to "Status Determination"—On the Exclusivity Principle in Capital Archaeology

Having completed the chronological construction and historical narrative restoration of the "Taosi—Shimao—Xinzhai" capital axis, we must confront a fundamental question: How can we be confident in the correspondence between archaeological remains and ancient historical emperors? This section aims to transcend specific textual research and reconstruct and reflect upon the methodology that underpins this study and indeed the entire field of early history archaeology.

7.1 The Root of the Dilemma: The Misapplication of the "Identity Verification" Paradigm

The academic field often falls into the dilemma of "insufficient evidence" when determining the nature of ancient capitals. The underlying cause is a methodological misalignment: unconsciously applying the "identity verification" paradigm used in historical-period archaeology to "prove the ownership of individual tombs" to answer the fundamentally different question of "locating a state capital."

① The "Probability" of Individual Tombs: Within the same social stratum, there could exist multiple "Individual A" or "Individual B" whose burial specifications might be similar. Confirming the tomb occupant's identity relies on direct evidence like inscriptions; otherwise, other possibilities always exist.

② The "Uniqueness" of a State Capital: Within a unified, expansive kingship system, there could only be one supreme center of power at any given time. Its archaeological manifestation must inevitably be a super-large capital that exhibits a cliff-like, unmatched lead in scale, construction standards, and resource control within its contemporaneous period and cultural sphere.

Applying the probabilistic logic suited for demanding an "identity card" to the task of confirming the "class monitor" seat is a fatal methodological error in scholarly principle.

7.2 Proposing a New Paradigm: "Status Determination" and the "Power

Exclusivity" Principle

This study advocates replacing the "identity verification" paradigm with the method of "status determination." Its core is the principle of "Power Spatiotemporal Exclusivity." The argument proceeds on two levels:

(1) Determination of Archaeological Status (A De-textualized Operation):

Independent of texts, comprehensively assess a site's size, architectural hierarchy, resource control, and cultural influence through settlement archaeology methods to determine whether it represents the "sole super-core" entity within its spatiotemporal framework.

(2) Logical Matching of Historical Roles:

When the archaeological "uniqueness" (e.g., Taosi) coincides temporally with the historical narrative's "uniqueness" (e.g., Yao and Shun), their correspondence is no longer conjecture. It becomes the sole logical conclusion after excluding all reasonable competitors.

7.3. Application and Significance in This Study

This methodology forms the invisible skeleton of this research. The reason we correlate Taosi with Yao and Shun and are confident of its status as the capital of the contemporaneous "paramount ruler under heaven" is based on decisive evidence from two dimensions:

(1) Absolute Advantage in Intrinsic Capacity (The "Class Monitor" Seat):

In the southern Shanxi region of the 22nd century BCE, the Taosi site, with its grand scale, the world's earliest astronomical observatory, and complex ritual assemblages, demonstrated its absolute monopoly over sacrificial authority, the right to formulate the calendar based on astronomy, and ritual norms. This far surpassed

what any regional chiefdom could achieve. It had firmly secured the position of the "sole class monitor" within the core area of Huaxia civilization at that time.

The reason for viewing Shimao as another center of the same power system is precisely because the overwhelming scale and military authority it displayed in its era meant it absolutely could not be the city of some "regional state" (an "Individual A or B"). It could only be a masterpiece of "paramount ruler under heaven" caliber.

(2) Rigid Constraints of the External Environment (The "Natural Selection" of the Great Flood):

Both texts and environmental archaeology confirm that this period coincided with a rare Great Flood episode. Against this backdrop, low-lying, flood-prone areas like the lower Yellow River region were fundamentally deprived of the natural conditions necessary for constructing and maintaining super-large capitals. This is not merely an inference but an irresistible law of nature. Therefore, during that specific period, any potential political entity that could have competed with Taosi was geographically disqualified from the contest from the outset.

Consequently, the establishment of the "Taosi—Shimao—Xinzhai" axis model is grounded not only in the precise chronological fit but, more fundamentally, in the logical inevitability guaranteed by this methodology—an inevitability forged jointly by the intrinsic developmental height of the civilization and the external natural environment. It allows us to confidently declare: What we have identified is not merely several ancient cities, but the unique "throne" that carried the epic of the early Huaxia state's birth, under specific historical and natural conditions.

8 The "Inscription" of Emperor Yao at Taosi—On the "Material-Textual Mutual Corroboration" of "Yao" and the Observatory

In archaeological practice, the evaluation of significant sites has always followed a grand demonstrative tradition that transcends "inscribed texts": when archaeological discoveries and textual records achieve a unique and precise correspondence in their core characteristics, the site itself is regarded as the most powerful "inscription."

8.1 Archaeological Precedents: Evidence Without "Inscriptions"

① The Mausoleum of Qin Shi Huang: Although no burial plaque inscribed with "Qin Shi Huang" has been unearthed within the mausoleum complex, its geographical location, unprecedented scale and layout, and unique cultural elements like the Terracotta Army highly coincides with records in texts like the Records of the Grand Historian, rendering its identity an indisputable fact.

② The Qianling Mausoleum of the Tang Dynasty: Similarly, the determination of its identity relies on the documented geographical location, the formal characteristics of surface remains (e.g., the Shushengji Stele, the Wordless Stele, stone statues), and their perfect accord with Tang dynasty imperial burial customs.

These cases prove that archaeology has long established in practice the principle of "material-textual mutual corroboration." The site itself is the silent declaration of its identity.

8.2 The Taosi Case: The Precise Mutual Corroboration of "Yao" and the Observatory

The Taosi site is a paradigm of this tradition and, with the addition of written evidence, constitutes an even more solid "triangular chain of evidence."

(1) Evidence from Writing: The Character "堯" (Yao) as the Architectural Blueprint of the Observatory

The character "堯" (Yao) is "a semantic-phonetic compound character. From yao

(堯) placed atop wu (兀)" (Shuowen Jiezi). Its original meaning is "the appearance of being supremely high."

① Wu (兀): Meaning "high and level on top," is precisely an abstract representation of the observatory's rammed-earth platform foundation.

② Yao (堯): Three "earth" components stacked, meaning "earth piled high," depicts precisely the rows of tall rammed-earth Observation Pillars erected atop the foundation (see Figure 9).

Summary: The ancient structure of the character "堯" (Yao) is itself an accurate architectural diagram. Its referent points directly to that Taosi structure possessing both a "high and level" foundation and "tall earthen pillars" — the observatory is "堯" (Yao).



(2) Evidence from Texts: The Original Meaning of "Emperor Yao" (帝尧) and "Yao's Heaven" (尧天)

① Emperor Yao (帝尧): Its meaning is twofold: first, "the Yao (observatory) of the Emperor" (the observatory of the imperial capital); second, "the Emperor of Yao" (the emperor who controls the observatory). Together, they constitute the complete political and theological significance of the title "Emperor Yao."

② Yao's Heaven (尧天): Its original meaning derives from the Canon of Yao in the Book of Documents: "He reverently observed the vast heavens, and calculated and delineated the appearances of the sun, the moon, the stars, and the zodiacal spaces." It refers to the scientific practice of observing celestial phenomena and formulating the calendar, not the later-derived moral eulogy. "Yao's Heaven" essentially means people observing the relationship between the sun, moon, stars, and the solar terms/seasons through the observatory—for the purpose of calendrical regulation.

(3) Archaeological Evidence: The Taosi Observatory – The Material Form of the Character "堯" (Yao)

The majestic observatory at the Taosi site, with its material form of the "wu" (兀, level-topped) foundation and the "yao" (堯, piled high) observation pillars, serves as the most eloquent material counterpart to the character "堯" (Yao).

8.3. Conclusion: Reconstructing the Definition of "Inscription" and the Capital Identity of Taosi

The textual records ("Emperor Yao," "Yao's Heaven"), the graphic structure of the character ("堯"), the archaeological object (the observatory), and its function (celestial observation and calendrical promulgation) together form a highly self-consistent evidentiary system. This system itself constitutes the most grand and hard-core "systematic inscription" for Taosi as the capital of Emperor Yao.

This case enlightens us that for early civilizations, the definition of "inscription" must be expanded from narrow engraved texts to a broad system of cultural symbols. Taosi requires no inscribed stone slab, because that observatory is the inscription engraved upon the land, and that character "堯" is the inscription transmitted through the classics. When "object" and "text" corroborate each other with such precise alignment, the identity of Yao's capital becomes self-evident.

9 Delineating Time and Space: The Taosi Tomb IIM26 and the Etymology of the Character "Yu (禹)"

9.1 Core Argument: Mirror-Level Correspondence Between Image and Character



The bone si-spade incised symbol from Taosi exhibits a mirror-level precise correspondence with the classic imagery of "Yu the Great Taming the Floods" (see Figure 5). This is no coincidence:

(1) Replication of Dynamic Posture:

- ① Imagery: The blade of the si tool held in Yu's right hand opens to the left.
- ② Incised Symbol: The blade of the tool held by the figure also opens to the left.
- ③ Conclusion: This proves the incised symbol is not a generic "person holding a tool" sign but a faithful depiction of the specific dynamic posture of "Yu the Great holding a si."

(2) Corroboration of Equipment Details:

① Rain Cape Form: The "cloth under the arm" in the imagery and the "short stroke on the back" in the incised symbol corroborate each other, jointly depicting the draped state of a rain cape.

② Bamboo Hat and Lei-Si Tools: Both core elements for rain protection and work are present.

Thus, we can conclude: The Taosi bone si-spade incised symbol is a highly realistic "portrait of Yu the Great taming the floods," carved with a blade. Its nature is the "standard portrait" of this flood-control hero. Its name, in later written transmission, became solidified as—"禹" (Yu).

9.2 Complete Chain of Evidence:

① Image (Portrait): The incised symbol and the flood-taming imagery correspond completely in posture (si facing left) and equipment (bamboo hat, rain cape, lei-si tools), locking it as the exclusive scene of "Yu the Great taming the floods."

② Name (Character): This pictorial early form is precisely the ancestor of the Shang-Zhou character "禹."

③ Object (Carrier): Incised on a bone si-spade, reinforcing the connection between the object and the achievement it commemorates ("inscribing achievements on objects").

④ Time (Chronology): Taosi middle period (c. 2100-2000 BCE), Completely consistent with the era of Xia Yu.

⑤ Place (Status): From the royal cemetery within the small city, is consistent with the status of Emperor Yu.

⑥ Fate (History): Later smash and lower one's standard or status, corresponding with the historical background of "Han Zhuo's Usurpation."

9.3 Historical Echo: A Hypothesis on the Generation of the Name from "Great Rain" to "Yu the Great"

Having verified the tomb occupant's identity and achievements, a deeper question emerges: Where does the name "禹" (Yu) itself originate?

A highly suggestive hypothesis: During that prolonged, ancient history-encompassing heavy rain and floods ("Great Rain"), the hero who led the flood control efforts and achieved monumental feats became inextricably linked to this natural disaster. In the collective memory of oral transmission, people might initially have referred to him as "the hero who managed the 'Great Rain' (floods)." The ongoing natural phenomenon of "Great Rain" (大雨, dà yǔ) and the savior hero "Yu the Great" (大禹, dà yǔ) became powerfully bound by their homophonic pronunciation.

Over time, "the matter of the Great Rain" solidified into "the name of Yu the Great." When a visual symbol needed to be created for this hero, artisans depicted his most iconic flood-taming visage: "wearing a bamboo hat and rain cape, holding lei-si tools." The "Portrait of Yu the Great Taming the Floods," much like the later epithet "Iron-Crutch Li" (Tieguai Li), used the most condensed visual language to forge an indelible "image badge" for this epic hero, becoming the ultimate symbol embodying his flood-control great cause and cultural identity—though the former uses a pictorial symbol, the latter a linguistic one.

This is not an arbitrary carving. It aimed to create a "standard portrait" with high recognizability and inspirational power. Its function was akin to later "political propaganda posters," aiming to use the most intuitive visual symbol to "broadcast" the hero's achievements and image, implanting and solidify within the collective memory

of the community. This image originally carried the great achievements and abundant merits of that great man who dealt with the "Great Rain," and was ultimately fixed in the writing system, becoming the character exclusive referring to him—"禹."

9.4 Final Conclusion:

Image (portrait), Name (character), Object (carrier), Time (chronology), Place (status), Fate (history)—sixfold evidence intertwines.

The phonetic connection from "Great Rain" (大雨) to "Yu the Great" (大禹) adds the final piece to this brilliant textual criticism, a piece filled with the breath of life and historical warmth.

The Taosi site Tomb IIM26 is the tomb of Emperor Yu, the founder of the Xia dynasty. What is incised on the bone si-spade within is the primordial scene that earned him immortality in history. Yu the Great, henceforth carrying his eternal image of battling the "Great Rain," steps out of legend and into verifiable history.

10. Conclusion: Communicating the Mind Through the Eye, Forging Identity—The Source Code of Huaxia Civilization

From the "Eye of the Divine" at Shimao to the human-face motif on Xinzhai pottery, from the "Yao"-character observatory at Taosi to the "Yu"-character bone si from Tomb IIM26, the series of discoveries in this study collectively point towards a unified logic of civilization genesis that transcends specific artifacts: a visual coding system of "communicating the mind through the eye to forge identity."

10.1 Recurrence of the Core Mechanism: The Civilizational Solidification from "Image" to "Character"

This study reveals two parallel, complete evolutionary chains from "image" to "character":

① The Sacred Edifice Chain: Observatory (image) → "堯" [Yao] (character)

The creation of the character "堯" was not abstract ideation but a faithful depiction of that sacred architectural structure used for "observing the heavens."

② The Heroic Deed Chain: The Dynamic Posture of Yu Taming the Floods (image) → "禹" [Yu] (character)

The primitive form of the character "禹" is precisely a snapshot of the classic stance of that flood-taming hero: wearing a bamboo hat and rain cape, holding lei-si tools.

10.2 Deciphering the Civilization's Source Code: The Dual Aspects of the Visual Source Code

These two cases perfectly illustrate the dual core of the Huaxia civilization's source code:

① "堯" [Yao] represents the source code of "Order and Knowledge." It permanently solidified, through the form of a written character, the core scientific practice of kingship—observing celestial phenomena and formulating the calendar—thereby constructing the sacred connection between cosmic order and earthly power.

② "禹" [Yu] represents the source code of "Achievement and Memory." It permanently commemorated, through the portrait of a hero, the great achievement of controlling the floods and pacifying the Nine Provinces, thereby forging a collective identity and cultural memory that transcends time and space.

10.3 The Final Verdict

Therefore, what the Taosi site provides for us is not isolated inscribed texts, but the physical evidence for a complete set of the civilization's "source code."

① That observatory and the character "堯" are the inscription of Power.

② That bone si and the character "禹" are the inscription of the Hero.

Through different carriers, they together executed the same civilizational program: transforming the most important symbols of power and the most monumental heroic images into the most intuitive visual symbols—the civilization's source code (Chinese characters). By "communicating the mind through the eye," they were implanted into the spiritual world of every member of the community, ultimately forging the immutable identity of the "Descendants of Yan and Huang" that has endured for millennia.

The ultimate conclusion of this study is: What we have deciphered is precisely the source code programming that has driven the Huaxia civilization, enduring for ten thousand years and ingrained into its very marrow.

11. Final Chapter: Dual Mutual Corroboration—The Universality of the "Image-Character" Logic and the Establishment of the Civilization's Source Code

The ultimate strength of this study lies not only in separately interpreting "Yao" and "Yu," but in the fact that Chapters Eight and Nine together constitute a decisive system of dual mutual corroboration.

11.1 Pattern Recurrence: From Isolated Instance to Established Rule

If "Observatory → 堯" were an isolated case, it might be considered coincidence. However, when "The Dynamic Posture of Yu Taming the Floods → 禹" reappears following the exact same logic, the element of chance is definitively eliminated.

① Case One (Scientific): A grand scientific structure (astronomical observatory) gave rise to the character "堯."

② Case Two (Heroic): A classic heroic human posture gave rise to the character "禹."

These two cases—one concerning an object (scientific facility), the other a person (hero); one relating to the rational exploration of cosmic order, the other to the eternal commemoration of historical achievement—jointly demonstrate from the two most important facets of civilization that transforming core cultural concepts into visual images and solidifying them as written characters was a highly mature and widely applied encoding and transmission mechanism in early Huaxia civilization. This reveals that the Huaxia ancestors had intuitively and profoundly grasped a trans-spatiotemporal principle of communication: the visual image is the most direct avenue to collective memory and psychological identity—the eye is the window to the mind.

11.2 Logical Closure: From Conjecture to Ironclad Principle

These two cases mutually reinforce each other, forming a perfect logical closure:

① The compelling, evocative heroic narrative of Chapter Nine (Yu) corroborates why the visual symbols revealed in Chapter Eight (Yao) possessed the powerful capacity to shape identity.

② The "scientific-facility-as-character" paradigm from Chapter Eight (Yao) provides parallel, equally grand systemic support for the "hero-as-character" thesis of Chapter Nine (Yu), together outlining the complete contours of civilizational operation.

11.3 The Final Verdict: The Discovery of the Civilization's Source Code

Therefore, the greatest legacy the Taosi site bequeaths to us is the archaeological presentation of a complete "system."

"Yao" and "Yu," these two most fundamental source codes of Huaxia civilization, reveal their compilation process in parallel: they are both "creations of vision," jointly practicing the ultimate principle of "communicating the mind through the eye."

This dual mutual corroboration allows us to make a final assertion that transcends any single piece of evidence:

What we have discovered is the most fundamental operating system that drove the birth and transmission of Huaxia civilization—a grand visual encoding that transforms the world into images and solidifies images into identity. Every ancient Chinese character born from this process is not merely a symbol, but a highly condensed unit of visual code. The intrinsic logic and power of this encoding system, spanning millennia, resonate and share a common lineage with the underlying codes we explore today in seeking to endow artificial intelligence with the capacity to understand the world.

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(Afterword: The core conclusions of this research originate from the author's interdisciplinary exploration in the work *Deciphering Historical Codes: Resolving the Dilemma of Shimao and the Origins of the Huaxia State*. The book, using archaeological facts and documentary records as its warp and weft, employs a fictional narrative form to conduct academic deduction. This article is a refined distillation of the rigorous argumentation and systematic construction of the key hypotheses and logical framework presented therein. Under this model, the core narratives of ancient historical texts such as Yu the Great's flood control and Yao and Shun's abdication, as well as key archaeological phenomena like the destruction of the Taosi(陶寺) late period and the abandonment of Shimao and Taosi(陶寺) around 1900 BCE, are all given a logically unified and coherent explanation.)

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