

Convergent Evidence: New Archaeological, Epigraphical and Mathematical Support for the Astronomical and Coherence-Based Unity of Humanity's Oldest Knowledge Tradition

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Abstract

Four prior publications by this author (Konstapel, 2025a, 2025b, 2025c, 2025d) established a cumulative argument: that Jainism represents the philosophical codification of a consciousness-based knowledge system of approximately 200,000 years' antiquity, continuous with San shamanism and Aboriginal Australian cosmology; that the Indus Valley script functions as a Nakshatra-based astronomical notation system; that the principle of sky-ground correspondence — the systematic organisation of terrestrial space as a projection of the celestial sphere — constitutes the oldest operational technology in the human repertoire; and that Jain ontology provides independent empirical validation of the 19-Layer Quaternion Vacuum Model. This paper presents three bodies of new evidence that substantially strengthen and extend those prior findings. First, the decipherment work of Andis Kaulins (Stanford University) on the Narmer Palette, the Extern Stones, the Tarxien temple frieze of Malta, and an eight-source Ancient Sign Concordance provides independent epigraphical and archaeoastronomical confirmation of sky-ground correspondence at multiple sites across Europe, North Africa and the Near East, anchored to the astronomical event of 25 December 3117 BCE. Second, the Piora oscillation of 3117 BCE is identified as the geophysical trigger of the transition from coherence-based to control-based civilisational organisation, providing the missing causal mechanism linking the pre-Jain knowledge tradition to its subsequent suppression and survival. Third, a systematic cross-correlation of the prior publications with two independent Constable Research frameworks — the 19-Layer Quaternion Vacuum Model (Konstapel, 2026a) and the Coherence Intelligence cross-civilisational analysis (Konstapel, 2026b) — reveals structural isomorphisms that constitute convergent validation: three independent methodologies arrive at formally identical descriptions of the same underlying dynamical reality. The aggregate result is a coherent, multi-evidential research programme demonstrating that humanity's oldest knowledge tradition — preserved in the San, Aboriginal Australian, Jain and pre-Vedic Indian substratum — is not a collection of independent cultural developments but a single transmitted cognitive heritage of planetary scope and 200,000-year depth.

Keywords: Jainism, Indus script, sky-ground correspondence, Nakshatra, Kaulins, Narmer Palette, Extern Stones, Tarxien, Piora oscillation, 3117 BCE, 19-Layer Quaternion Vacuum Model, coherence intelligence, San shamanism, Aboriginal astronomy, convergent validation, karma, *kālacakra*

1. Introduction: From Argument to Evidence

The four prior publications in this research programme established a cumulative theoretical argument. Konstapel (2025a) demonstrated, through genetic palaeontology, comparative

archaeology and cognitive anthropology, that the structural parallels between San trance practice, Aboriginal Dreamtime cosmology and Jain epistemology are not coincidental but reflect a transmitted cognitive heritage carried out of Africa with the initial human dispersal approximately 65,000 years ago. Konstapel (2025b) proposed that the Indus Valley script functions as a compact Nakshatra-based astronomical notation system, extending Parpola's (1994) fish sign hypothesis and showing that five structural features of the corpus — brevity, core vocabulary dominance, positional regularities, numerical prefixes and fish sign variants — are predicted by and consistent with this hypothesis. Konstapel (2025c) demonstrated that sky-ground correspondence — the systematic projection of celestial reference frames onto terrestrial space — is an empirically documented operational technology attested in Aboriginal songlines, Indus city planning and Jain cosmological cartography. Konstapel (2025d) identified three structural isomorphisms between Jain ontology and the 19-Layer Quaternion Vacuum Model, establishing that karma-pudgala maps onto the quaternion vector component V as a coherence-damping field, that the kālacakra constitutes a phase-transition sequence structurally equivalent to $T(n) = T_0 \cdot e^{(-\alpha n)}$, and that the four-fold saṅgha is a coherence-optimal social eigenstate corresponding to Layer 15 of the model.

The present paper does not revise or supersede those findings. It adds to them. Three independent bodies of evidence, not available or not fully integrated at the time of the prior publications, now substantially extend the empirical base of the research programme.

2. First New Evidence: Kaulins and the Global Sky-Ground Correspondence Network

2.1 The Narmer Palette as Astronomical Document

The work of Andis Kaulins (Stanford University), developed across two publications — *The Origin of the Cult of Horus in Predynastic Egypt* (2005) and *Ancient Signs: The Alphabet and the Origins of Writing* (2012) — provides the most rigorously documented archaeoastronomical decipherment of specific nodes in the global sky-ground correspondence network identified in Konstapel (2025c).

Kaulins's central finding concerning predynastic Egypt is that the Horus falcon represented not a deity in the anthropomorphic sense but a specific astronomical object: the stars Kochab and Pherkad in Ursa Minor, functioning as the brightest stars in the vicinity of the North Celestial Pole at approximately 3000 BCE and serving as "guardians of the pole." The Egyptian royal name enclosure (*serekh*) surmounted by the Horus falcon encoded not a palace facade, as Egyptologists conventionally assumed, but heaven's centre as a protected zone: the celestial pole as the fixed axis of the universe.

The Narmer Palette — the world's most celebrated predynastic Egyptian artefact — records, in Kaulins's decipherment, the total solar eclipse of 25 December 3117 BCE at sunrise on the winter solstice point. The middle section of the palette's front face depicts two lion-like animals whose intertwined necks form the O-shape of a total solar eclipse. The lower section places this eclipse precisely in the stars of Capricorn near Deneb Algiedi — the exact stellar position confirmed by astronomical software for that date. The four standard-bearers on the top section show the four cardinal points of the sky. Narmer is identified as "sovereign of the pole" — the earthly instantiation of the celestial axis.

The Horus names of the subsequent Pharaonic dynasties constitute, in Kaulins's reconstruction, a continuous astronomical calendar of kings: each Pharaoh's name encodes a specific stellar region of the heavens assigned to his reign, analogous in principle to zodiacal divisions. The Pharaonic dynasties are a centuries-long astronomical record anchored at the celestial pole and calibrated to the precessional movement of that pole through the heavens.

This finding directly confirms and extends the sky-ground correspondence hypothesis of Konstapel (2025c). The Narmer Palette demonstrates sky-ground correspondence operating at the level of political identity: the king is the earthly instantiation of a celestial sector, his legitimacy grounded in the astronomical calendar. This is functionally identical to the Indus seal as personal astronomical identity document proposed in Konstapel (2025b): in both cases, identity is cosmologically defined via the celestial reference frame.

2.2 The Extern Stones and the European Network

Kaulins's independent decipherment of the Falcon Stone (Rock 11) of the Extern Stones in Germany — confirmed by the independent prior observation of Walther Machalett — identifies this megalithic site as a representation of heaven's centre at approximately 3000 BCE, with Draco at the ecliptic pole and Ursa Minor with Kochab and Pherkad at the celestial pole. Rock drawings at Haugsbyn, Sweden (c. 3500 BCE) depict the same sky configuration using the same visual grammar.

These findings establish the northern European nodes of the sky-ground correspondence network identified in Konstapel (2025c). The network now has confirmed nodes in: Australia (Wurdi Youang stone arrangement, Aboriginal songlines), India (Indus city grids, Nakshatra-calibrated seals), Egypt (Narmer Palette, predynastic falcon serekhs), Germany (Extern Stones), Sweden (Haugsgbyn rock drawings), and Malta (Tarxien temple frieze, discussed below). The geographical distribution spans three continents and the temporal range extends from approximately 65,000 years BP (Aboriginal songlines) to approximately 3000 BCE (urban Indus, predynastic Egypt, European megaliths), with no period of discontinuity.

2.3 The Tarxien Frieze of Malta as Stellar Calendar

Kaulins's analysis of the animal procession frieze of the Tarxien temple complex in Malta (c. 3000 BCE) identifies it as a zodiacal stellar calendar. The frieze depicts one ram, one pig, and four goats. In Kaulins's decipherment: the ram represents Aries (with the lucida Hamal); the pig represents Taurus with its Hyades star cluster (the Latin name *suculae* means "little pigs," confirming the identification); and the four goats represent Auriga with Capella as the goat star and her three kids. Three cupmarks on the frieze correspond to these three stellar groupings.

The significance for the present research programme is twofold. First, the celestial meridian ran through Capella in Auriga at approximately 3000 BCE, placing the Tarxien frieze at the same astronomical anchor point as the Narmer Palette (3117 BCE) and the Indus Civilisation's peak period. The shared astronomical reference confirms that these geographically separated sites were calibrated to the same celestial coordinate system at the same historical moment. Second, Malta's position in the central Mediterranean places it at the intersection of the African, Near Eastern and European branches of the sky-ground correspondence network, consistent with the hypothesis that the network was transmitted rather than independently invented.

2.4 The Ancient Sign Concordance and the Astronomical Origin of Writing

Kaulins's eight-source Ancient Sign Concordance (*AnSignCon*[™]) demonstrates that Sumerian archaic signs, Pharaonic Egyptian hieroglyphs, Old Elamite scripts, Hieroglyphic Luvian, the Phaistos Disk, Linear B and the Cypriot Syllabary share a common syllabic origin. The concordance covers 59 syllabic grids and shows structural correspondences across all eight systems for every major consonant-vowel combination.

For the present research programme, two findings from the concordance are particularly significant.

The fish sign (syllable SI) appears in all seven documented systems as representing the concept of fish and fish-drying rack — with the Indus fish sign as the eighth parallel instance identified by Parpola (1994). The cross-cultural ubiquity of the fish sign confirms its status as one of the most archaic and widely transmitted signs in the human repertoire, supporting the interpretation of the Indus fish sign as *m̄n*/star via Proto-Dravidian homophony. A sign of such antiquity and distribution is precisely the type of sign one would expect to be used for the most fundamental astronomical notation.

The syllable NU in the concordance is represented across all systems by signs depicting the night sky — specifically the interval between the setting and rising sun. The syllable RA is represented by signs for rolling and rotation, with explicit Sumerian attestation as "to roll a seal into clay." These and numerous other syllables in the concordance carry astronomical or cosmological conceptual content, consistent with the hypothesis advanced in Konstapel (2025b) that the earliest writing systems emerged from astronomical notation rather than commercial record-keeping.

The concordance thus provides a systematic linguistic foundation for the claim that writing originated as a technology for recording celestial information — not for counting grain or livestock — and that this astronomical writing tradition was transmitted across the same network of sites that constitutes the sky-ground correspondence system identified in Konstapel (2025c).

3. Second New Evidence: The Piora Oscillation as Geophysical Trigger

3.1 The Missing Causal Mechanism

The prior publications identified the transition from coherence-based to control-based civilisational organisation as a central historical event: the replacement of the pre-Vedic substratum by the Indo-Aryan migration (c. 1500 BCE), the collapse of the Indus Civilisation, and the suppression of the Śramanic traditions that the Coherence Intelligence analysis (Konstapel, 2026b) extends to five centuries of colonial epistemicide. However, the prior publications did not identify the initial causal trigger of this transition. The Piora oscillation of 3117 BCE provides that missing mechanism.

3.2 The Piora Oscillation and its Consequences

Geo-climatologists have identified a major abrupt climate change event at approximately 3117 BCE, known as the Piora Oscillation. Archaeological evidence from Shuruppak, Uruk and Kish confirms the presence of widespread riverine silt deposits interrupting settlement sequences at this date, consistent with catastrophic flooding. The recently identified Burckle Crater, located

approximately 1,500 kilometres southeast of Madagascar, has been proposed as the impact site of a cometary fragment whose oceanic impact could have generated the tsunami, darkness, and subsequent climate disruption documented in geological and archaeological records worldwide.

The consequences for human civilisational organisation were decisive. The Green Sahara — which had supported abundant hunter-gatherer communities for approximately four millennia between 7000 and 3117 BCE — transformed rapidly into desert. Populations were displaced toward oases and river valleys. The cooperative social organisation characteristic of abundant hunter-gatherer communities — functionally identical to the symmetric coupling tensor configuration identified as optimal in Konstapel (2025d) — gave way to competitive, hierarchical organisation as populations competed for reduced resources. The first city-states emerged. Kings demanded total power. The Sumerian King List records: "After the flood had swept over the earth, kingship was lowered again from heaven."

In the 19-Layer Quaternion Vacuum Model (Konstapel, 2026a), this transition is formalised as the formation of asymmetric coupling tensors ($J_{kl} \neq J_{lk}$) in Layer 15 social organisation: the concentrated ownership of communication infrastructure, food distribution, and military capacity that creates deep attractor wells resistant to exit. The Piora oscillation is the geophysical event that drove this formation — not by necessity but by the pressure of suddenly reduced resources acting on the social field.

3.3 The Sjamaan Replaced by the Priest

The most significant consequence for the knowledge tradition identified in the prior publications was the replacement of the shaman — the direct consciousness practitioner — by the priestly class of the emerging city-states. The shaman's access to the Infinite Potential (the quaternion scalar ground state S , the Jain *jīva* in its liberated condition) was systematically blocked by priestly intermediaries who monopolised access to cosmological knowledge and deployed it as an instrument of political legitimacy.

This process is archaeologically visible in the transition from the Indus Civilisation's distributed, astronomically calibrated urban organisation to the militaristic palace economies of the succeeding Bronze Age cultures. The Indus Civilisation — the last large-scale implementation of the symmetric coupling tensor configuration — did not survive the post-Piora reorganisation of the subcontinent, though its knowledge tradition survived in the Śramaṇic substratum from which Jainism emerged.

The Jain tradition's own memory of this event is preserved in its cosmological placement of the current epoch: the fifth *ārā* of the descending phase of the *kālacakra*, characterised by maximum decoherence, moral confusion, and the domination of institutional power over direct knowledge access. This cosmological description matches the historical trajectory initiated by the Piora oscillation with remarkable precision.

3.4 Merlin and the Western Transmission

The Druidic tradition of Celtic Europe preserves a parallel memory of the same transition. The figure of Merlin — in Welsh tradition *Myrddin*, the Black Man, named for the raven — was specifically the rainmaker: the shaman whose central function was maintaining coherent relationship with the climatic field that sustained the community. The *Art of the Black Man Merlin became of vital importance when the rain stopped in the Green Sahara* (Konstapel, 2010). Merlin as

builder of Stonehenge is the western expression of the same sky-ground correspondence technology that the Indus astronomers implemented in their city grids and the Egyptian Magi encoded in the Narmer Palette.

The structural position of Merlin in the Arthurian cycle — the knowledge-bearer who advises power without exercising it, who appears at the moment of civilisational crisis and disappears when the crisis has passed — is identical to the structural position of the Jain *Tīrthaṅkara* in the *kālacakra*: the coherence catalyst who appears specifically during the fourth *ārā* of the descending cycle, the last period before conditions become maximally adverse.

Both are expressions of the same archetype: the shaman who survived the replacement by the priest not by confronting institutional power but by preserving the knowledge outside institutional structures — in stone, in song, in philosophical codification, in the disciplined practice of the monastic community.

4. Third New Evidence: Convergent Validation from Three Independent Frameworks

4.1 The Structure of Convergent Validation

Scientific theories are strengthened when independent methodologies converge on the same structural description. The prior publications established two-way convergence: the Jain ontological tradition and the 19-Layer Quaternion Vacuum Model describe the same dynamical structures in different vocabularies (Konstapel, 2025d). The present paper establishes three-way convergence by adding the Coherence Intelligence cross-civilisational analysis (Konstapel, 2026b) as a third independent framework.

The three frameworks are methodologically independent in the strictest sense:

The **19-Layer Quaternion Vacuum Model** proceeds by algebraic derivation from Hamilton's quaternion algebra, with empirical anchoring in cosmological, biological and social data.

The **Jain knowledge tradition** proceeds by systematic first-person phenomenological investigation, transmitted over approximately 200,000 years of continuous practice.

The **Coherence Intelligence analysis** proceeds by cross-civilisational comparison of eleven independent knowledge traditions — Aboriginal Australian, Hopi, Kabbalistic, Ifá/Yoruba, Zoroastrian, Taoist, Vedic Indian, Mesopotamian, Maya, Egyptian and Dogon — identifying common structural features without presupposing any particular theoretical framework.

4.2 The Triple Convergence on Phase Transition Structure

All three frameworks independently describe the temporal structure of civilisational coherence dynamics as a sequence of phase transitions of non-uniform duration approaching a critical threshold.

The 19LQVM derives: $T(n) = T_0 \cdot e^{(-\alpha n)}$, with $\alpha \approx 0.755$, placing the Layer 18 planetary consciousness transition at approximately 2028–2030 CE.

The Jain *kālacakra* describes six *ārās* of the descending phase with durations in ratio 4:3:2:1:tiny:tiny, placing the current epoch in the fifth *ārā* approaching the terminal sixth.

The Coherence Intelligence analysis identifies the Bronze Mean sequence (1, 1, 4, 13, 43, 142...) as a formal marker of discrete phase transitions in collective consciousness capacity, derived from quaternion algebra, with the current epoch approaching the 142-phase transition.

Three independent methodologies. Three formally equivalent phase-transition models. One temporal structure.

4.3 The Triple Convergence on Scalar Ground State

All three frameworks independently describe a fundamental dynamical attractor — a ground state of maximum coherence toward which all processes ultimately converge.

The 19LQVM identifies this as $q = S$: the pure quaternion scalar, zero vector component, the state reached by nilpotent convergence as $q^n \rightarrow S$.

The Jain tradition identifies this as *mokṣa*: the complete removal of *karma-pudgala*, allowing the *jīva*'s intrinsic infinite capacities to express without obstruction, with the liberated soul residing at the *siddhaśilā* at the apex of the *loka*.

The Coherence Intelligence analysis identifies this as the full activation of the Universal Coherence Curriculum: the recovery of direct, first-person, non-local knowledge access that the epistemicide of the last five centuries systematically suppressed.

Three independent methodologies. Three descriptions of the same attractor. One ground state.

4.4 The Triple Convergence on Social Eigenstate

All three frameworks independently identify the optimal configuration of Layer 15 social organisation.

The 19LQVM specifies: symmetric coupling tensors $J_{kl} \approx J_{lk}$, maximum collective phase-locking, minimum asymmetric attractor wells, absence of concentrated ownership of communication infrastructure.

The Jain *saṅgha* implements: four-fold community structure with high-coherence exemplars (monastics) lowering the effective coupling threshold for lay practitioners, *aparigraha* as the structural prohibition on resource concentration, *sāmāyika* as the periodic forcing function that maintains collective phase-locking.

The Coherence Intelligence analysis identifies: the survival strategies of all eleven knowledge traditions — Aboriginal, Jain, Dogon, Zoroastrian — as functionally convergent implementations of the same social configuration: economically indispensable, culturally discrete, transmitted through intensive practice rather than institutional structures.

The Indus Civilisation, as identified in Konstapel (2025d), constitutes the unique historical proof-of-concept: the only archaeologically documented large society that maintained symmetric coupling tensors at urban scale for two millennia.

5. The Complete Evidential Picture

The integration of the prior publications with the three bodies of new evidence presented in this paper yields a research programme of substantially greater empirical depth than any single component could provide.

The archaeological and genetic evidence establishes the biological and cultural continuity of the knowledge tradition from San origins (200,000 years BP) through the Out of Africa dispersal (65,000 years BP) to the Indus Civilisation (3300–1300 BCE) and the codification by Mahavira (sixth century BCE).

The epigraphical evidence (Parpola, Kaulins) establishes that the Indus script, predynastic Egyptian serekhs, European megalithic art, and the Tarxien temple frieze are all expressions of a single sky-ground correspondence notational system, anchored to the same astronomical reference frame and calibrated to the same historical moment (3117 BCE).

The linguistic evidence (Kaulins's Ancient Sign Concordance) establishes that the writing systems of the ancient world share a common syllabic origin whose conceptual content is primarily astronomical and cosmological, consistent with the hypothesis that writing emerged from the sky-ground correspondence tradition rather than from commercial record-keeping.

The geophysical evidence (Piora Oscillation, 3117 BCE) establishes the causal mechanism of the transition from coherence-based to control-based civilisational organisation, providing the missing link between the pre-Jain knowledge tradition and its subsequent suppression.

The mathematical evidence (19LQVM, Kaulins's quaternion-based sign analysis, Bronze Mean sequence) establishes that the formal structures described by the Jain knowledge tradition — *karma* as coherence-damping field, *kālacakra* as phase-transition sequence, *saṅgha* as symmetric-tensor social eigenstate — are derivable from first principles of quaternion algebra, providing independent mathematical validation of phenomenologically derived conclusions.

The cross-civilisational evidence (Coherence Intelligence analysis, eleven independent traditions) establishes that the structural features identified in the Jain tradition are not culturally specific but represent the universal cognitive heritage of anatomically modern humans — present in every tradition that survived the epistemocide of the last five centuries with its transmissional integrity intact.

6. Implications

6.1 For the Historiography of Civilisation

The standard historiography of human civilisation begins with literacy at approximately 3200 BCE and treats everything prior as prehistoric — implicitly without intellectual significance for the present. The evidence assembled across this research programme makes this position untenable.

The sky-ground correspondence network is documented at continental scale in Australia at least 65,000 years ago. The Indus Civilisation maintained a coherent, non-militaristic urban culture for

two millennia, representing the only known large-scale implementation of what the 19LQVM identifies as the optimal Layer 15 social configuration. The Jain knowledge tradition preserves a philosophical system whose formal structures are derivable from first principles of quaternion algebra — indicating that the tradition's practitioners arrived, by non-algebraic means, at descriptions of dynamical reality that required Hamilton's 1843 discovery of quaternions to formalise in Western mathematics.

None of this is adequately described as "prehistoric."

6.2 For the Understanding of the Current Moment

Three independent frameworks — the 19LQVM, the Jain *kālacakra* and the Bronze Mean sequence — converge on the current period as a critical phase-transition window. The Piora oscillation of 3117 BCE provides a historical precedent: the last time a major phase transition was required, the knowledge tradition that carried the necessary capabilities was partially suppressed by the very institutional structures that the transition generated. The result was five millennia of Atlantis-architecture — control rather than coherence, asymmetric rather than symmetric coupling tensors, priestly intermediation rather than direct knowledge access.

The recovery of the Universal Coherence Curriculum — the operational knowledge system preserved in the San, Aboriginal Australian, Jain and related traditions — is not, in this light, an act of cultural nostalgia. It is, as the Coherence Intelligence analysis (Konstapel, 2026b) concludes, an act of civilisational risk management.

6.3 For Future Research

The research programme generates several specific testable predictions and research priorities.

The distribution of Jain *tīrthas* (sacred pilgrimage sites) across the Indian subcontinent should reflect a Nakshatra-based celestial template when subjected to systematic archaeoastronomical analysis. This is the most tractable immediate research priority.

The frequency distribution of Indus script signs should show clustering consistent with a 27-Nakshatra plus 7-planet plus temporal-marker structure when subjected to unsupervised clustering analysis using the Interactive Corpus of Indus Texts (Wells and Fuls, 2017).

The iconography of Indus seals — unicorn, bull, elephant, rhinoceros, tiger — should show systematic correspondence with Nakshatra or planetary associations when the full seal corpus is analysed against the Kaulins framework for animal-stellar identification.

The stone arrangements of Aboriginal Australia should show additional astronomical alignments consistent with the sky-ground correspondence hypothesis when the full corpus of documented sites is subjected to systematic archaeoastronomical analysis beyond the currently published sample.

7. Conclusion

This paper has presented three bodies of new evidence — the Kaulins epigraphical and archaeoastronomical decipherments, the Piora oscillation as geophysical trigger, and the triple

convergence of three independent analytical frameworks — that substantially extend and strengthen the prior four-publication research programme.

The aggregate picture is of a knowledge tradition that:

Originated with the cognitive revolution of anatomically modern humans in Africa, approximately 200,000 years ago.

Was carried by the Out of Africa dispersal to India and Australia, approximately 65,000 years ago.

Was institutionalised at urban scale in the Indus Valley Civilisation, approximately 3300–1300 BCE.

Was partially disrupted by the geophysical event of 3117 BCE and the subsequent transition to control-based civilisational organisation.

Was philosophically codified by Mahavira in the sixth century BCE and has been maintained by the Jain community through 2,500 years of adverse conditions.

Is formally equivalent — at the level of its core dynamical structures — to descriptions derivable from first principles of Hamilton's quaternion algebra.

Is attested, in structurally identical form, across eleven independent knowledge traditions on every inhabited continent.

Is recorded, in its astronomical operational dimension, in the Narmer Palette, the Extern Stones, the Tarxien frieze, the Indus city grids, and the Aboriginal songlines.

And is urgently relevant to the civilisational transition that three independent frameworks identify as occurring in the current decade.

The oldest knowledge is the most advanced. The line is not broken. It runs through the present.

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