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Oracle Bone Script Classification and Interpretation Based on Cognitive Linguistics: A Paradigm Shift from 'Form-Meaning' to 'Mind'

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Abstract

Traditional classification and interpretation of Oracle Bone Script (henceforth, OBS for short) have predominantly relied on glyph structure, divination content, or historical periodization. While these approaches have yielded significant achievements, they often fall short of systematically revealing the essence of OBS as external symbols of our ancestors' cognitive system. This paper aims to introduce cognitive linguistics theory to construct a new, more explanatory paradigm for OBS classification and interpretation. It first systematically elaborates on how core principles of cognitive linguistics (such as embodiment, image schemas, categorization, metaphor, metonymy, and conceptual blending) can provide a meta-theoretical foundation for the study of ancient scripts. Subsequently, the paper proposes a multi-layered, dynamic system for OBS classification and interpretation: at the Basic Perceptual Level, glyphs representing core concepts (spatial relationships, actions, entities) are systematically reorganized based on Image Schemas (e.g., Container, Path, Link, Part-Whole, Force); at the Conceptual Structure Level, Categorization and Prototype Theory are applied to finely analyze the internal structure of key semantic fields like "sacrifice," "military campaign," and "celestial phenomena"; at the Conceptualization Mechanism Level, an in-depth analysis is conducted on the highly active operations of Metaphor (e.g., spatial metaphors, ontological metaphors) and Metonymy (e.g., part for whole, instrument for action) in OBS, revealing their role as the core driving force for conceptual extension; and it preliminarily explores the potential role of Conceptual Blending in the generation of complex glyphs. Finally, the paper discusses the application value of this cognitive paradigm in deciphering undeciphered characters, reconstructing Shang Dynasty thought patterns, innovating Chinese character pedagogy, and cross-cultural comparison, advocating for a new research path for OBS studies that shifts from static "form-meaning correspondence" to dynamic "mental restoration," aiming for a deeper understanding of the origins of Chinese characters and the universal laws of early human cognition.

Keywords

Oracle Bone Script; Cognitive Linguistics; Classification; Interpretation.

1. Introduction

Since the discovery of OBS in 1899, its classification and organization have primarily followed three paths: first, the analysis of character formation based on the Shuowen Jiezi's "Six Writings" framework, the foundation of traditional philology [1]; second, organization by historical period, represented by Dong ZuOBSn's "Examples of Periodization Research," which established a chronological framework for oracle bone inscriptions [2]; third, thematic

ISSN: 1813-4890

classification based on divination content (e.g., sacrifice, warfare, agriculture, celestial phenomena), focusing on their value as historical sources [3, 4]. These methods have formed a solid foundation for OBS studies and are of immense value.

However, as research deepens, their limitations are becoming apparent. The "Six Writings," being a theoretical summary by Han Dynasty scholars based on the relatively mature seal script system, often proves inadequate when analyzing the older, more pictographic, and still evolving OBS. The formative rationale behind many glyphs cannot be fully encompassed or reasonably explained [1, 5]. Historical periodization and thematic classification are more external descriptions; while they can answer "when" and "what," they fail to deeply explain a more fundamental question: Why did the ancestors choose specific, sometimes complex, visual forms to represent specific concepts? What were the underlying cognitive motivations, conceptualization processes, and mental principles? For example:

Why was the character "监" (jiān, to inspect) initially represented by the form of "a person bending over a water basin to see their reflection" to denote the abstract concept of "inspection" or "lesson"?

Why could the character "春" (chūn, spring) be written in a form depicting "plants sprouting, enclosing '屯' (resembling a seed breaking ground)"? What was the underlying method of conceptualizing time?

Why was the character "得" (dé, to obtain) represented by the form of "a hand holding a shell," when the object of acquisition extended far beyond cowrie shells?

The answers to these questions go far beyond what "pictographic" or "ideographic" can fully explain. They touch upon the deep cognitive mechanisms of how our ancestors interacted with the external world through bodily experience and how they encoded this interactive experience into a symbolic system. This is precisely where cognitive linguistics can provide key insights.

Cognitive linguistics posits that language is not an autonomous symbolic system but a product of general human cognitive abilities. Its structure and function reflect human bodily experience, sensorimotor processes, and conceptualization [3, 6]. Systematically introducing this theoretical framework into OBS research means we no longer merely view OBS as "symbols recording language," but rather as direct fossil evidence of the conceptual system, a window into the mental structure, and a blueprint for understanding the world of the Shang people [7]. Based on this, this paper attempts to construct a new framework for OBS classification, organization, and interpretation guided by cognitive linguistics theory, aiming to transcend superficial form-meaning associations and reveal the cognitive models, thinking patterns, and conceptual systems of the Shang ancestors hidden behind the glyph forms.

2. Theoretical Foundation: Core Principles of Cognitive Linguistics and Their Implications for OBS Research

Before constructing the specific classification system, it is essential to clarify the core theoretical tools of cognitive linguistics upon which it relies and their relevance to OBS research.

2.1. Section HeadingsEmbodied Philosophy and the Embodiment of Language

The philosophical basis of cognitive linguistics is Embodied Philosophy, which firmly rejects pure objectivism and subjectivism, arguing that the mind is inherently embodied, thought is mostly unconscious, and abstract concepts are largely metaphorical [8, 9]. For OBS, this means that the creation of each glyph was not an arbitrary abstract convention but was rooted in the concrete, recurring bodily experiences of the Shang people. For example, the perception of up and down (derived from the posture of the upright body), the perception of inside and outside of containers (derived from the body as a container and the use of daily utensils), the perception

ISSN: 1813-4890

of applying and receiving force (derived from actions like pushing, pulling, lifting, blocking), and the perception of front/back paths (derived from walking) constituted the initial experiential basis and source of conceptualization for glyph meanings[10].

2.2. Image Schemas and Their Transformations

Image Schemas are simple, dynamic cognitive structures that recur in the interaction between the body and the external world. They originate from bodily experience but provide structure for more abstract concepts [9]. Examples include the CONTAINER schema (involving interior - exterior - boundary), PATH schema (involving source -path- goal- direction), LINK schema, PART-WHOLE schema, and FORCE schema (involving blocking, compulsion, balance, etc.). These schemas are pre-linguistic or language-synchronous cognitive primitives that form the basis for more complex concepts. A large number of OBS glyphs representing spatial relationships, displacement, force interaction, and object composition can be seen as visual representations and symbolic fixations of these basic image schemas [10, 11].

2.3. Categorization and Prototype Theory

Humans understand and organize the myriad phenomena of the world through Categorization. Categories are not based on the classical sufficient and necessary conditions but are built around a Prototype through family resemblance, forming radial or hierarchical structures [6]. Within the semantic system of OBS, members of a category (e.g., “sacrifice,” “animals,” “official titles”) are not equal in status; there are typical (prototypical) and atypical (peripheral) members. Identifying the prototype members and analyzing the paths of category extension helps understand the core connotation of the category and its organization within the cultural model of the Shang Dynasty.

2.4. Metaphor and Metonymy: The Twin Engines of Conceptual Extension

These are the most important conceptual extension mechanisms in cognitive linguistics.

Metaphor: A systematic cross-domain mapping from a concrete, easily understood Source Domain to an abstract, less easily understood Target Domain [8]. It is not merely a rhetorical device but a fundamental, ubiquitous way of thinking. For example, “TIME IS SPACE” (“before/after,” “upper/lower position”), “STATES ARE LOCATIONS” (high/low) are deeply entrenched root metaphors.

Metonymy: Within the same cognitive domain (Idealized Cognitive Model, ICM), using a part (part for whole) or another closely associated entity (e.g., producer for product, instrument for action) to refer to the whole thing or the target concept [6]. Metonymy is based on contiguity and cognitive salience and is a core mechanism of conceptual reference and semantic extension.

2.5. Conceptual Blending Theory

Conceptual Blending Theory focuses on how conceptual elements from different Mental Spaces are selectively combined to form a new, blended conceptual space with Emergent Structure [7]. This is highly enlightening for understanding complex ideographic and indicative characters in OBS whose meanings are not simply the sum of their parts.

These theories collectively point to a core idea: the form-meaning relationship in OBS is essentially the result of the Shang people's conceptualization, based on bodily experience, utilizing basic cognitive schemas, and employing means such as categorization, metaphor, metonymy, and conceptual blending, either online or entrenched. Our classification and organization work aims to attempt to reversely reconstruct this vivid cognitive process.

ISSN: 1813-4890

3. Basic Classification of OBS Based on Image Schemas: Reconstructing the Cognitive Framework of Space and Action

Image schemas are the foundation of conceptual structure, the bridge connecting bodily experience and abstract thought. We can reclassify and interpret a core set of OBS characters according to their dominant image schemas. This goes beyond the traditional radical classification based primarily on visual components, seeking organizational principles from cognitive roots.

3.1. Container Schema (CONTAINER) Category

The Container Schema involves interior, exterior, and boundary, one of the most basic experiences. Related OBS characters form a cognitively related group:

Directly representing container objects: Such as "皿" (vessel), "鼎" (ding tripod, cooker/ritual vessel), "酉" (wine vessel shape), "壴" (drum shape, drum body as a resonance box). These characters are pictographs of container objects themselves, the most direct materialization of the container schema.

Representing spatial relations: Such as "在" (zài, originally 才, picturing grass sprouting within the ground, indicating existence), "内" (nèi, inside, 冂+入, entering within a boundary), "外" (wài, outside, 卜 outside 冂, outside a boundary), "中" (zhōng, center of a flagpole, highlighting the central area). These characters use the container schema to conceptualize abstract spatial position and existential relationships.

Extended to states and abstract concepts: Such as "困" (kùn, tree within an enclosure, indicating constraint, predicament), "囚" (qiú, person within an enclosure, indicating imprisonment, prisoner), "畜" (chù, 幺 + 田, resembling silk/ropes constraining in a field, indicating domestication, accumulation). Here, the physical container schema is systematically mapped onto the abstract domains of state and society, representing an abstract situation of being constrained, contained, or accumulated [9, 10].

3.2. Path Schema (PATH) Category

The Path Schema involves source, path, goal, and direction, fundamental for understanding displacement and process.

Representing motion verbs: Such as "各" (gè, later 格, foot coming towards a dwelling, meaning to arrive, come), "出" (chū, foot leaving a dwelling, meaning to exit, go out), "涉" (shè, feet wading across water, meaning to ford), "复" (fù, 彳+畐, meaning to return, reply), "追" (zhuī, 辶+𠂤, meaning to pursue), "逐" (zhú, 辶+豕, meaning to chase wild animals). These characters vividly depict the path, direction, manner, and goal of movement, representing the dynamic presentation of the path schema.

Representing process and goal: Such as "至" (zhì, arrow reaching the ground, emphasizing the endpoint, arrival), "达" (dá, 辶+大, open road, meaning to reach unimpeded, attain). The path schema here implies the completeness, purposefulness, and resultant state of the action.

Extended to time and abstract processes: Such as "前" (qián, foot/止 on a boat, indicating advancing ahead, extended to temporal sequence), "后" (hòu, 夂+幺+口, indicating delay, slowness, extended to temporal sequence). These are typical examples of the metaphorical mapping of the path schema onto the temporal domain [8, 11].

3.3. Link Schema (LINK) Category

The Link Schema represents an association, attachment, or combination between two or more entities. For example, "及" (jí, hand reaching a person from behind, meaning to catch up,

ISSN: 1813-4890

associate, and), “联” (lián, ears connected by thread, meaning connect, unite), “娶” (qǔ, take a woman, establishing a marital link), “合” (hé, 亼+口, lid and vessel fitting together, meaning to close, join). These glyphs conceptualize various physical, social, or logical “link” relationships by visually representing the contact, connection, or combination of two elements [9].

3.4. Part-Whole Schema (PART-WHOLE) Category

The Part-Whole Schema is fundamental for understanding object structure, collective relationships, and social organization.

Representing collections and wholes: Such as “集” (jí, birds on a tree, three birds indicating a flock, the whole composed of parts), “族” (zú, under a banner with arrows, representing a kinship-based military/social organizational collective), “众” (zhòng, three people under the sun, representing a crowd).

Representing object structure: Such as “体” (tǐ, 體, bone +豊, representing the constituent parts of the body and their plumpness), “牢” (láo, cow under a roof, representing the whole structure for penning livestock). Furthermore, the vast majority of compound characters (especially ideograms) are themselves visual presentations of the part-whole schema in character structure, such as “莫” (mù, sunset, sun in grass), “明” (míng, bright, sun and moon shining together).

3.5. Force Schema (FORCE) Category

The Force Schema includes dynamic interactions like compulsion, blockage, attraction, and balance, fundamental for understanding causality and interaction. For example, “斗” (dòu, two people fighting hand-to-hand, indicatiing counterforce, conflict), “御” (yù, 彳+ 卩+午, person holding a whip driving a horse, symbolizing control force, mastery), “陟” (zhì, steps+ mound, feet climbing a hill, overcoming gravity, ascending), “降” (jiàng, steps+ mound in reverse, feet descending a hill, influenced by gravity, descending). These glyphs are dynamic captures and conceptualizations of force interaction, dynamics, and resistance [10].

By classifying through image schemas, we connect a set of seemingly unrelated characters belonging to different traditional radicals based on their underlying shared cognitive structures, revealing how the ancestors transformed basic, pre-linguistic bodily spatial experiences into symbolic conceptual units, laying the foundation for a higher-level conceptual system.

4. Reconstruction of Semantic Fields Based on Categorization Theory: Revealing the Conceptual Network of the Shang Dynasty

Categorization theory from cognitive linguistics, especially prototype theory, can help us organize and interpret the semantic fields in OBS more finely, understanding their internal structure, hierarchical relationships, and cultural salience.

4.1. The Prototype Structure and Extension Paths of the “Sacrifice” Category

“Sacrifice” is one of the most core and complex categories in OBS. Traditional research often lists various sacrificial names, but a cognitive perspective requires us to explore its prototype structure and extension logic.

Prototypical Rituals: Those using the most common sacrifices (e.g., cattle, sheep, pigs), targeting the most core worship objects (e.g., direct-line former kings, Di [God], nature spirits), aimed at 祈求 the most basic well-being (e.g., bountiful harvest, king's health, calming wind and rain) and held with relatively high frequency, such as “寮” (liáo, piling wood and burning sacrifices, smoke rising), “燎” (liáo, burning firewood to sacrifice to heaven), “彡” (shān, drum music sacrifice), likely constitute the prototype or central members of the “sacrifice” category [4, 12].

ISSN: 1813-4890

They have relatively typical forms and clear functions, serving as cognitive reference points for sacrificial activities.

Atypical Members and Category Extension: Some special, unconventional, or functionally specific sacrifices, such as “沈” (chén, sinking sacrifice in the river), “埋” (mái, burying in the earth), “烄” (jiāo, burning humans to pray for rain), or sacrifices involving large-scale human sacrifices, lie at the periphery of the category. They might target special deities (e.g., the River, Mountain), be held in special circumstances (e.g., major disasters, before wars), or extend from the prototype through metonymy (using the sacrifice method for the ritual name), metaphor (e.g., “烄” using the fierceness of burning to metaphorize the severity of drought), etc. Analyzing the co-occurrence frequency and combination patterns of sacrificial names with objects, sacrifices, purposes, and times in the oracle texts can roughly outline the prototypical gradient of the “sacrifice” category and its cultural cognitive model.

4.2. The Hierarchical Structure and Action Specification of the “Military Campaign” Category

Verbs related to “military campaigns” reflect the military activities of the Shang dynasty; their internal structure is not homogeneous.

Prototypical Campaign: “征” (zhēng, originally 正, picturing a settlement being trodden by a foot, representing a righteous, formal expedition) was likely the typical military action against recognized enemies (e.g., border states), possessing prototypicality.

Category Members and Fine Distinctions: “伐” (fá, cutting a head with a dagger-axe, emphasizing the beheading action, or referring to a specific scale of military action), “侵” (qīn, resembling an ox tail sweeping, representing gradual encroachment), “袭” (xí, raid) specify the category of “military attack” from different dimensions (method, scale, suddenness), forming subcategories. These members connect with the prototype through metonymy (effect for action, e.g., “伐”) or metaphor (using a concrete action to refer to an abstract military action, e.g., “侵”), reflecting the precision of the Shang people's conceptual differentiation of military actions.

4.3. The Fuzziness and Interaction Patterns of the “Deities/Celestial Phenomena” Category

The “deity” category in the Shang period was not a clearly bounded set, reflecting animistic or animatistic thinking characteristics.

Categorical Fuzziness: For example, “河” (hé) was both the natural river and the River God; “岳” (yuè) was both the mountain and the Mountain God; “帝” (Dì) was the supreme ruler commanding wind and rain, yet his concept differed from concrete natural objects. This reveals the overlap and fuzzy boundaries between the “natural object/phenomenon” and “deity” categories, reflecting the early thinking characteristic of “harmony between heaven and man” or “undifferentiated subject and object” [4, 13].

Relational Structure of Categories: Analyzing the interaction relationships between “Di” and natural spirits like “wind,” “rain,” “thunder,” as well as between “Di” and ancestral spirits like “former kings,” “former consorts” in the oracle texts (e.g., “Di commands the wind,” “Di approves of us,” “the king hosts Di”), allows for the reconstruction of the categorical hierarchy and power structure within the Shang spirit world, which is itself a grand conceptual network.

This type of semantic field organization based on categorization theory is no longer a simple word list or index but an attempt to restore a dynamic, structured, culturally specific mental conceptual network, allowing us to see how the Shang people “divided” and “organized” their world.

ISSN: 1813-4890

5. Analysis of Conceptualization Mechanisms Based on Metaphor and Metonymy: The Key to Interpreting Abstract Thought

Metaphor and metonymy are the most important mechanisms for OBS's extension from concrete to abstract concepts, the key to deciphering its cultural connotations and thinking patterns. The creation and semantic extension of a large number of OBS glyphs can be profoundly explained through these two mechanisms.

5.1. Early Evidence and Systematicity of Metaphorical Operation

Spatial Metaphors: These are the most universal, deeply entrenched root metaphor groups.

TIME IS SPACE: "昔" (xī, past) uses the form "sun below waves" (flood days), using a specific, past spatial event to metaphorically conceptualize "past time"; "昃" (zè) depicts the sun tilting westward, mapping the sun's spatial position in the sky to a point in time during the day; "旦" (dàn) depicts the sun rising above the horizon, meaning morning. The words indicating position "前" (front), "后" (back) denote both spatial sequence and temporal sequence (previous day, descendants), representing a systematic metaphorical projection from the spatial domain to the temporal domain [8, 11].

MORE IS UP: "多" (duō, much) depicts two pieces of meat stacked, using the vertical stacking of objects to metaphorically conceptualize an increase in quantity. "陟" (ascend), "降" (descend), while originally denoting spatial displacement, contain the "up/down" schema easily used metaphorically to indicate changes in status or quantity.

STATES ARE LOCATIONS: "上" (up), "下" (down) can denote concrete positions, but also social status ("下 上" refers to all spirits, possibly containing hierarchy), quality ("上 吉" - highly auspicious), "福" (fú, 示 + 畐, deity/ancestor granting blessing, blessing as an abstract entity that can be possessed, also viewable as being in a good state).

Ontological Metaphors: Treating abstract concepts as concrete entities or substances.

Abstract Entities as Containers: "域" (yù, 或, dagger-axe+ enclosure, territory guarded by force, territory conceptualized as a container). "家" (jiā, 宀+ pig, dwelling/sacrificial place, also a social unit, conceptualized as a container).

Vision/Perception as Entity/Force Transmission: The potential distinction between "见" (jiàn, to see, person with eye) and "视" (shì, to look at, 示 + eye) might imply different conceptualizations: "见" might focus more on the visual impression entering the eye (container?), while "视" focuses more on actively projecting the gaze (emission of force?). While this requires more evidence, it体现了 the exploration of conceptualizing perceptual acts.

Abstract Forces/Emotions as Entities: "令" (lìng, order, 亼 + 卩, gathering people to issue a command, the command is treated as an entity that can be emitted), "乎" (hū, call, breath rising out to summon, the call is treated as a stream of air or force), "畏" (wèi, ghost holding a staff, fear is treated as a terrifying entity).

5.2. Metonymy as the Core Mechanism of Formation and Reference

Metonymy is ubiquitous in the formation and usage of OBS, a core strategy for glyph simplification and meaning derivation.

Part for Whole: This is the most common type of metonymy. "舟" (zhōu, boat) uses part of the hull (outline) to represent the whole boat; "车" (chē, chariot) uses the most distinctive core components like wheels and shaft to represent the whole chariot; "麋" (mí, elk) uses the characteristic eyebrow part to represent the whole elk; "牛" (niú, ox), "羊" (yáng, sheep) use head features to refer to the entire animal.

ISSN: 1813-4890

Instrument for Action/User: “册” (cè, bound slips) is used to refer to the “ce ming” (granting titles) ritual action; “帚” (zhǒu, broom) is used to refer to the “妇” (fù, consort) identity (likely originating from her duty of managing internal affairs, instrument for user); “卜” (bǔ, crack) uses the image of the crack produced by heating to refer to the entire divination act; “我” (wǒ, weapon shape) uses the weapon to refer to the collective holding the weapon (state, army), then metonymically refers to self.

Controller for Controlled: As in the example “我”.

Place for Event/Institution: Characters like “寝” (qǐn, sleep/palace), “官” (guān, official/building), “学” (xué, learn/school) refer both to the architectural entity and metonymically to the activities occurring therein (sleeping, governing, learning) or the administrative/educational body.

Effect for Cause: “监” (jiān, 監, person looking into water at reflection), looking at the reflection (effect) is for the purpose of inspecting, discerning (cause/purpose); the glyph expresses the effect but metonymically refers to the entire purposeful action.

5.3. Preliminary Observations on Conceptual Blending

For some more complex glyphs, Conceptual Blending Theory may provide a more refined explanation than simple “ideographic” interpretation. For example, “安” (ān, peaceful, 宀+ woman) does not simply mean “safe” because “woman under roof”; rather, it blends the input spaces of “female” (possibly associated with domestic affairs, stability) and “house” (providing shelter, safe space), emerging with new meanings like “peace,” “tranquility,” “comfort” in the blended space, meanings not mechanically added from the two components [7]. Similarly, “仁” (rén, benevolence, 人 + 二, though not attested in OBS, its formative logic might be traceable) might blend “person” and “二” (indicating multiple people, relationship), emerging with social ethical meanings like “affection,” “benevolence”.

Through systematic metaphorical, metonymic, and conceptual blending analysis of individual characters or related character families, we can clearly see how the Shang people efficiently utilized known, concrete bodily experiences and familiar objects, through basic cognitive mechanisms, to understand, construct, and express unknown, abstract social institutions, temporal concepts, mental activities, and ethical values. This transforms OBS from a pile of cold lists or divination records into a living “cognitive map” and “epic of thought” recording how the ancestors' conceptual world was constructed step by step.

6. Applications and Prospects: The Research Value and Practical Pathways of the New Paradigm

The classification and interpretation paradigm based on cognitive linguistics not only has theoretical innovation significance but also profound application prospects and practical value.

6.1. Providing New Reasoning Ideas and Verification Dimensions for Deciphering Undeciphered Characters

For currently undeciphered OBS characters, cognitive analysis can provide new hypothetical directions. Decipherers can:

Analyze the image schemas implied by their component structures to speculate on the possible categories of action, relationship, state, or entity they might belong to.

Examine their syntactic position and collocational patterns (semantic prosody) in the oracle texts to infer their possible part of speech and metaphorical or metonymic usage.

Once a hypothetical interpretation is proposed, test whether it conforms to universal cognitive laws (e.g., the limited set of image schemas, common types of metaphorical mappings) and the

ISSN: 1813-4890

specific model of Shang culture. A cognitively plausible explanation often has higher credibility. For example, a character containing "彳" (road) and "hand" is likely related to concepts under the Path schema like "carrying something while walking," "guiding," "transporting," providing a hypothesis direction for decipherment based on cognitive plausibility, beyond mere glyph comparison.

6.2. Deeply Reconstructing Shang Dynasty Thought Patterns and Cultural Logic

By systematically analyzing the dominant metaphors, metonymic patterns, and categorical structures in OBS, we can transcend specific historical facts and glimpse the core logic and "collective unconscious" of Shang culture. For example:

The pervasiveness and systematicity of spatial orientation metaphors reflect their emphasis on cosmic order, social hierarchy, and a spatialized mode of thinking.

Behind the act of "offering sacrifices to deities" might lie metaphorical thinking patterns of "exchange," "contract," or "gift-counter-gift".

The complex system of kinship term metonymies and the concept of "族" (zú, clan) precisely reflect the kinship structure, power inheritance, and group identity methods of their patriarchal society.

The descriptions of the commanding power of "Di" and the harmful abilities of nature spirits reflect people's understanding of the world through a "force dynamics" model. This is a deep historical anthropological and intellectual history exploration moving from "what they said" to "how they thought" [13, 14].

6.3. Promoting Innovation in Chinese Character Teaching and Popularization

Applying the findings of cognitive linguistics to Chinese character education can transform rote memorization into comprehensible, origin-based learning. Showing students the image schema and metonymic mechanism of "及" (hand reaching person) is much easier to understand and remember than simply telling them it's an "ideographic character." Explaining the temporal metaphor in "昔" not only helps memorize the form and meaning but also appreciates the ancients' concept of time. This "cognitive character analysis method" is particularly suitable for Teaching Chinese as a Foreign Language and primary/secondary school language education, effectively stimulating learning interest and deepening the understanding of the cultural connotations of Chinese characters.

6.4. Facilitating Cross-Cultural and Cross-Temporal Comparison of Script Cognition

This paradigm provides a unified analytical framework and a platform for dialogue for comparing different ancient writing systems. We can compare ancient Egyptian hieroglyphs, Sumerian cuneiform, and OBS regarding their preferences in selecting image schemas (e.g., hieroglyphs focus more on biological features, cuneiform originated concretely but rapidly abstracted), methods of categorization (e.g., boundaries of deity categories), and paths of metaphorical mapping (e.g., commonalities in time metaphors) [11]. This helps answer a grander question: To what extent did the creation and evolution of early human writing share universal, body-based and environment-based cognitive laws, and to what extent were they constrained by and reacted upon specific cultural models, ecological environments, and technological conditions? This incorporates script studies into the broader history of human cognitive development.

ISSN: 1813-4890

7. Summary

Systematically applying cognitive linguistics theory to the classification and interpretation of OBS represents a profound paradigm shift from "object description" to "subject interpretation," from "structural analysis" to "cognitive construction." It prompts us to turn our gaze from the external visual features of glyphs and isolated meanings towards the body, experience, and mind of the Shang ancestors who created and used these glyphs. By constructing a multi-dimensional classification and interpretation system based on image schemas as the perceptual framework, categorization theory as the conceptual organizational principle, metaphor-metonymy as the meaning extension driver, and conceptual blending as the mechanism for generating complex meanings, we are not merely organizing a set of ancient characters but attempting to decipher an ancient conceptual system, restore an ancient worldview, and connect with a thinking rhythm spanning three thousand years.

This path requires deeper interdisciplinary dialogue, deeply integrating paleography, archaeology, history, anthropology, and cognitive science (including cognitive psychology, cognitive archaeology). Despite challenges such as the lack of ancient context, incomplete materials, and the probabilistic nature of cognitive inferences, its theoretical prospects and application value are broad and profound. It truly and organically connects OBS research closely with "people"—with the human body, human experience, human thought, and human culture—thereby allowing the pulse and wisdom of a civilization from over 3,000 years ago to be genuinely perceived and profoundly understood by us today. It provides a unique and indispensable case and great inspiration from Eastern civilization for reflecting on the origins, nature, and diversity of human language, thought, and culture.

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