

Temporal and Spatial Cognitive Orientations in English and Chinese: Syntax, Discourse, and Cultural–Semiotic Manifestations

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Abstract: *Language functions not only as a communicative system but also as a culturally mediated cognitive tool through which speakers organize experience and construct meaning. Drawing on cognitive linguistics, discourse analysis, and cultural semiotics, this paper investigates contrastive patterns between English and Chinese through the analytical lens of temporal and spatial cognitive orientations. Adopting a qualitative, theory-driven approach, the study examines syntactic organization, discourse progression to demonstrate how English discourse tends to privilege linear, temporally sequenced coherence, whereas Chinese discourse often exhibits spatially organized, context-dependent meaning construction. Extending beyond language, the paper further explores how comparable cognitive orientations are reflected in art, architecture, and aesthetic traditions, thereby underscoring the pervasiveness of cognitive–cultural patterns across semiotic domains. The study argues that these cognitive tendencies, while functional within their respective cultural systems, may contribute to pragmatic misalignment and communicative difficulty in intercultural interaction. Therefore, cultivating learners’ awareness of such cognitive differences can enhance intercultural communicative competence and facilitate the development of a flexible “third cultural identity” in EFL education.*

Keywords: Temporality and spatiality, English–Chinese contrast, Discourse organization, Cultural semiotics.

1. Introduction

The interrelationship among language, culture, and cognition has long occupied a central position in linguistics, anthropology, and communication studies. Early scholars such as Boas emphasized that linguistic structures cannot be fully understood apart from the cultural contexts in which they emerge, while later theorists further argued that language serves as a primary medium through which culturally patterned modes of thinking are externalized and transmitted [1]. From this perspective, language does not merely label pre-existing reality but actively participates in shaping how experience is conceptualized and communicated.

Brooks’ distinction between formal culture and deep culture provides a useful framework for understanding this relationship [2]. While formal culture includes visible and teachable elements such as customs and institutions, deep culture encompasses implicit value systems, cognitive preferences, and habitual modes of reasoning that are acquired largely through socialization rather than explicit instruction. These deep cultural patterns profoundly influence communicative behavior, often operating below the level of conscious awareness.

Subsequent scholars have elaborated on this view from cognitive and semiotic perspectives. Hall conceptualized culture as an implicit system of meaning that organizes social interaction [3], while Robinson proposed that individuals from different cultural backgrounds rely on distinct “cognitive maps” to interpret the world [4]. In semiotic terms, culture may be understood as a symbolic system that mediates perception, interpretation, and communication. Language, as one of the most salient symbolic systems, provides a privileged site for examining these culturally embedded cognitive patterns.

Within the context of globalization, increasing academic

mobility, and the widespread use of English as an international language, intercultural communication has become a routine rather than exceptional phenomenon.

However, communicative difficulties frequently arise even among linguistically proficient speakers. Such difficulties are often attributed to pragmatic failure, discourse mismatch, or rhetorical difference, yet these surface phenomena are frequently rooted in deeper cognitive and cultural orientations. Misunderstandings may therefore stem not from insufficient linguistic competence but from divergent expectations regarding how meaning should be organized, sequenced, and made explicit.

Against this backdrop, the present study explores contrastive patterns between English and Chinese through the analytical lens of temporal and spatial cognitive orientations. Building on prior research in cognitive linguistics and contrastive discourse analysis, the paper argues that English discourse tends to privilege linear, temporally sequenced organization, whereas Chinese discourse often reflects spatially organized, context-dependent coherence. Importantly, these orientations are not treated as rigid or deterministic properties of language communities but as recurrent cognitive tendencies that become particularly salient in intercultural and second-language contexts.

The study pursues three main objectives. First, it seeks to elucidate how temporal and spatial cognitive orientations are manifested in English and Chinese at the levels of syntax and discourse. Second, it extends the analysis beyond language to examine parallel patterns in art, architecture, and aesthetic traditions, thereby highlighting the broader cultural embeddedness of cognitive preferences. Third, it considers the implications of these findings for intercultural communication and EFL pedagogy, arguing for the importance of cognitive awareness in fostering intercultural communicative competence.

2. Theoretical Background: Language, Cognition, and Cultural Logic

2.1 Language as a Cognitive–Cultural System

Language may be broadly defined as a symbolic system composed of phonological, lexical, and syntactic resources through which speakers encode and interpret meaning. However, from a cognitive–cultural perspective, linguistic forms are not arbitrary but are shaped by historically and culturally situated ways of conceptualizing experience. Brooks notes that effective communication presupposes not only shared linguistic codes but also shared assumptions about how meaning is structured and conveyed.

Cognitive linguistics further emphasizes that language reflects embodied and culturally mediated cognition. Conceptual categories, grammatical relations, and discourse conventions are shaped by habitual patterns of attention and interpretation. As such, linguistic analysis can offer valuable insights into the underlying cognitive orientations favored within particular cultural contexts.

2.2 Morphological and Non-Morphological Tendencies

Shen distinguishes between morphological and non-morphological languages as a heuristic framework for understanding cross-linguistic variation [5]. English, influenced by Indo-European grammatical traditions and Western philosophical logic, makes extensive use of inflectional morphology and function words to encode grammatical relations. These features support an analytical mode of expression in which logical relations are explicitly marked.

Chinese, by contrast, is often characterized as exhibiting non-morphological tendencies. Grammatical relations are frequently conveyed through word order, contextual inference, and semantic resonance rather than through overt morphological marking. Scholars have linked this linguistic pattern to broader cultural orientations emphasizing harmony, relationality, and contextual sensitivity. While such generalizations must be treated cautiously, they provide a useful starting point for examining contrastive cognitive tendencies.

2.3 Temporal and Spatial Cognitive Orientations

Building on earlier work, Wang proposes that languages may differ in the extent to which they privilege temporal versus spatial modes of organization. A temporality-oriented system emphasizes linear sequencing, causal progression, and explicit logical linkage, whereas a spatially oriented system foregrounds relational positioning, simultaneity, and holistic configuration [6].

English discourse has often been described as favoring linear progression, with meaning unfolding sequentially across time, presenting the characteristics of more connectedness, continuity, less syntactic reversibility, chain-like textual organization. Chinese discourse, by contrast, has been described as exhibiting spatial organization, show the characteristics of more chunkiness, discreteness, syntactic

reversibility and Rubik’s Cube-like textual organization [7].

Importantly, these orientations are understood here as dominant tendencies rather than categorical oppositions. Individual speakers may flexibly adopt different strategies depending on genre, context, and communicative goals.

3. Data Resources

The present study adopts a qualitative, interpretive research design grounded in cognitive linguistics and contrastive discourse analysis. Rather than aiming for quantitative generalization, the analysis seeks to identify recurrent discourse patterns that index culturally embedded cognitive orientations.

To illustrate contrastive patterns systematically while remaining theory-driven, this study adopts examples from the following two corpora comprising:

1) English academic and expository texts sampled from the British Academic Written English (BAWE) Corpus, which contains peer-reviewed student and professional English prose across disciplines.

2) Chinese academic and expository texts sampled from the Peking University Chinese Corpus (CCL), a widely used reference for contemporary Chinese texts.

4. Linguistic Manifestations of Cognitive Orientations

This chapter investigates how different cognitive orientations toward time and space are linguistically manifested in English and Chinese. Drawing on examples adapted from established corpora (e.g. BAWE, CCL) and previous empirical studies, the analysis focuses on syntactic organization and discourse-level patterning.

4.1 Syntactic Organization

English syntax is commonly described as predicate-centered, with clear subject–predicate relations and extensive use of subordinators and conjunctions to encode logical relations. Temporal markers such as tense and aspect play a central role in organizing events along a linear timeline. These features contribute to a discourse style in which coherence is achieved through explicit grammatical and logical linkage [8].

Example 1: Explicit sequencing in English

(1) *Because the experiment was conducted under controlled conditions, the results can be interpreted with a high degree of reliability.* (adapted from BAWE)

In this example, the relationship between the experimental conditions and the reliability of the results is explicitly marked by the subordinating conjunction *because*. The clause structure guides the reader to process the event sequence in a linear manner: cause precedes effect. Meaning is constructed through a clearly ordered temporal-logical chain, reflecting a preference for explicit sequencing.

Example 2: Temporal subordination in English academic writing

(2) After the policy was implemented, significant changes were observed in student performance. (adapted from BAWE)

Here, the temporal conjunction *after* explicitly encodes the chronological relationship between two events. The interpretation of the second clause depends on the prior temporal anchoring of the first. Such constructions illustrate how English often relies on temporal markers to structure both events and arguments.

Chinese syntax, by contrast, often relies on paratactic structures, in which clauses are juxtaposed without overt markers of subordination. Logical relations are frequently inferred from semantic content and contextual cues. This syntactic flexibility allows for multiple interpretive pathways and reflects a spatial mode of organization in which meaning emerges from the configuration of elements rather than from linear dependency.

Example 3: Paratactic configuration in Chinese

(3) 实验在控制条件下进行, 结果具有较高的可靠性。(adapted from CCL)

Unlike its English counterpart, this Chinese sentence does not employ an explicit causal marker. The relationship between the two clauses is inferred through juxtaposition and shared contextual knowledge. The clauses coexist in a relational space rather than being hierarchically ordered, illustrating a paratactic mode of organization.

Example 4: Event juxtaposition without overt temporal markers

(4) 数据收集完成, 分析工作展开, 结论逐渐清晰。(adapted from CCL)

This example presents multiple events without overt temporal or causal markers. The sequence is interpreted holistically, with temporal relations inferred rather than encoded. Such structures foreground relational coherence over explicit temporal progression.

Taken together, these examples suggest that English syntax tends to externalize temporal and logical relations through formal markers, whereas Chinese syntax often leaves such relations implicit, allowing meaning to emerge from spatial juxtaposition and contextual integration. This difference is not merely stylistic but reflects distinct cognitive preferences in structuring experience.

4.2 Discourse Organization and Thematic Progression

At the discourse level, differences in cognitive orientation become even more salient. English and Chinese texts often differ in how themes are introduced, maintained, and developed, which in turn affects how arguments unfold.

Thematic progression theory provides a useful framework for analyzing cognitive orientations that English academic

discourse frequently adopts linear thematic progression, whereby the rheme of one sentence becomes the theme of the next [9]. This pattern creates a sense of forward movement and cumulative argumentation aligned with temporal cognition.

Example 5: Linear thematic progression in English

(5) *Online learning has gained popularity in recent years.*

This mode of education offers flexibility for working adults.

Such flexibility has contributed to increased enrollment. (based on patterns observed in BAWE)

This excerpt illustrates a linear thematic progression in which each rheme becomes the theme of the subsequent sentence. The discourse advances step by step, mirroring a temporal progression in reasoning. The reader is guided along a predetermined argumentative path.

Example 6: Temporally sequenced argument structure

(6) *The study first examines learner motivation.*

It then analyzes classroom interaction.

Finally, pedagogical implications are discussed. (adapted from BAWE)

The use of explicit sequencing markers (*first, then, finally*) reinforces a time-oriented organization of discourse. Argumentative structure is aligned with temporal order, suggesting that understanding proceeds through successive stages.

Chinese discourse, however, often employs constant or parallel thematic progression [10]. Multiple sentences may elaborate on a single theme from different perspectives, creating a spatial effect in which meaning is constructed through juxtaposition. While such organization is rhetorically effective within Chinese discourse conventions, it may be perceived as indirect or repetitive by English readers.

These differences are particularly salient in academic writing, where expectations regarding argument structure and coherence are culturally specific. Misalignment at this level can lead to evaluative bias and communicative frustration in intercultural academic contexts.

Example 7: Constant thematic progression in Chinese

(7) 在线学习近年来迅速发展。

在线学习改变了学习方式。

在线学习扩大了教育资源的获取范围。(adapted from PKU CCL)

Here, a single theme is maintained across multiple clauses, each providing a different perspective. Rather than advancing through temporal steps, the discourse expands spatially around a central concept. Meaning accumulates through

parallel elaboration.

Example 8: Parallel evaluation in Chinese discourse

(8) 这一政策具有现实意义,

这一政策回应了社会需求,

这一政策体现了改革方向。(adapted from PKU CCL)

This structure relies on parallelism rather than causal or temporal chaining. Persuasiveness is achieved through the cumulative effect of co-present evaluations, reflecting a spatial mode of discourse organization.

English discourse tends to conceptualize argumentation as a process unfolding over time, whereas Chinese discourse more often treats meaning as a configuration of related elements within a shared conceptual space. These contrasting patterns have important implications for cross-cultural communication and academic writing.

5. Cognitive Orientations Beyond Language: Spatial Design and Artistic Expression

Extending beyond language, the paper further explores how comparable cognitive orientations are reflected in art, architecture, and aesthetic traditions, thereby underscoring the pervasiveness of cognitive-cultural patterns across semiotic domains. By comparing the spatial design of the Garden of Versailles and traditional Chinese gardens, it demonstrates how temporal and spatial cognitive orientations are also manifested in artistic and architectural practices.

5.1 The Garden of Versailles: Linear Order and Temporal Control

The Garden of Versailles, constructed in seventeenth-century France, is widely regarded as a paradigmatic example of Western formal garden design. Its spatial organization is characterized by strict symmetry, axial alignment, and long, uninterrupted sightlines.

The central axis extends outward from the palace, guiding visitors through a carefully staged sequence of visual experiences. Movement through the garden follows a pre-designed route, and spatial perception unfolds in a linear, progressive manner. Each section prepares the viewer for the next, creating a sense of temporal progression embedded in space.

From a cognitive perspective, this design reflects a preference for order, control, and predictability. Space is structured to be read sequentially, much like a linear argument in English academic discourse. Meaning emerges through guided movement and temporal anticipation.

5.2 Traditional Chinese Gardens: Relational Space and Co-presence

In contrast, traditional Chinese gardens, such as those found in Suzhou, exhibit a markedly different spatial logic. Rather

than relying on a single dominant axis, these gardens emphasize irregular layouts, multiple viewpoints, and the principle of moving and changing scenery.

Paths are winding, and spaces are interconnected through corridors, windows, and framed views. Visitors are not directed along a single route but are free to explore, constructing their own spatial experience. Different elements—rocks, water, plants, architecture—coexist within a relational network.

Cognitively, this design foregrounds co-presence rather than progression. Meaning is not revealed step by step but emerges from the dynamic relationship among spatial elements. This mirrors the spatially organized discourse patterns observed in Chinese, where meaning is often constructed through juxtaposition and parallel elaboration.

The contrast between Versailles and traditional Chinese gardens can be summarized as follows:

Table 1: Cross-Domain Comparison

<i>Dimension</i>	<i>Versailles Garden</i>	<i>Chinese Classical Garden</i>
Spatial logic	Linear, axial	Relational, non-linear
Visitor movement	Guided sequence	Free exploration
Cognitive orientation	Temporal progression	Spatial configuration
Linguistic parallel	Hypotactic discourse	Paratactic discourse

6. Implications for Intercultural Communication and EFL Pedagogy

Differences in cognitive orientation may contribute to pragmatic misalignment in intercultural communication. For example, explicit, linear discourse may be interpreted as overly assertive, while context-dependent discourse may be perceived as vague. Recognizing these tendencies can foster greater interpretive tolerance. And therefore, in EFL pedagogy, integrating cognitive awareness into instruction can help learners understand not only how to use linguistic forms but why they are preferred. Such awareness supports the development of a flexible “third cultural identity” that enables learners to mediate between cognitive systems.

7. Conclusion

This paper has argued that contrastive patterns between English and Chinese can be productively examined through the lens of temporal and spatial cognitive orientations. These orientations manifest in linguistic structure, discourse organization, and broader cultural practices, shaping communication and intercultural interaction. By foregrounding cognitive awareness in EFL education, educators can better equip learners to navigate cultural and communicative complexity in a globalized world.

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