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From Literal Meaning to Intended Use: A Pragmatic-Semantic Analysis of Spatial Expressions

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Abstract— *This research examines the semantics and pragmatics of spatial expressions as they occur in various languages, with a particular focus on the English language. It examines how these expressions are conceptualized and utilized in diverse Western and Eastern cultural contexts, highlighting the importance of spatial terms in shaping human cognition and communication. By applying Talmy's typology of spatial expressions, the study aims to uncover how cultural factors influence the semantic meanings and pragmatic uses of spatial expressions. The results reveal a pattern of variability in the usage of spatial expressions, reflecting cultural and contextual factors in discourse. This research enhances our understanding of how language encapsulates complex spatial relationships, providing empirical evidence for the interplay of linguistics, cognition, and culture. It highlights the need for further investigation into the typological representation of spatial relations within linguistic frameworks, offering insights into cognitive processes that govern the perception and description of space across different cultures.*

Keywords— ***Literal Meaning, Intended Use, Semantic, Pragmatic, Analysis, Spatial Expressions***

Aims of the Study

1. To analyze the semantic and pragmatic functions of spatial expressions in Western and Eastern Cultures.

2. To explore the influence of cultural factors on the conceptualization of spatial language.

3. To investigate the relationship between language, cognition, and cultural context in spatial discourse.

Hypotheses

1. Spatial expressions are significantly shaped by cultural cognition, resulting in variations in meaning and usage.

2. The encoding of spatial information differs across languages, reflecting broader cultural

and political differences.

Research Questions

1. How do spatial expressions reflect cognitive and situational contexts across different cultures?

2. What role do cultural variations play in the understanding and use of spatial language?

3. In what ways do spatial terms influence perceptions of identity in discourse?

I. INTRODUCTION

Different cultures uniquely encode spatial information, and this paper explores the variations in spatial expressions across languages and regions. It examines those types of input with different spatial descriptions, focusing on the pragmatic-semantic use of spatial terms in qualitative and quantitative ways. Utilizing strategies from Talmy and Levinson, the research analyzes the spatial encoding and syntactic structures of Chinese and English. Various spatiotemporal adpositions are associated with specific

events in speech acts, highlighting "patterned variability. The methodology employs a comparative, cross-cultural approach, examining English and Chinese languages alongside unrelated language families. Relevant published works in other cultures will be assessed for methods and outcomes, suggesting improvements while clarifying the intersection of research strands. The researchers selected several cultures concerning the use of spatial expressions to incorporate the semantic dimensions of spatial terms across several languages. Essential terms, such as "spatial expression," referring here to both objects denoting locations and relations are presented. The term "cultural group" refers here to a larger population of people who share the same beliefs and behaviors.

II. STATEMENT OF THE PROBLEM

Spatial expressions play a fundamental role in human language, reflecting how individuals conceptualize and communicate their understanding of physical and abstract spaces. This paper aims to examine how spatial expressions are conceptualized within the context of cognitive linguistics, relating them to situational contexts to explore the subtleties of meaning and their inferences.

III. IMPORTANCE OF THE STUDY

Most studies of spatial expressions consider variability in the input data as a potential source of diversity (Levinson, 1996). These studies focus on one language (the object language) and its relation to multiple others (the meta languages). The typological properties of spatial expressions in the object language are explained based on their mental models, which are theorized by comparing them with those of the other languages. In contrast to this focus, the present study investigates the properties of a class of metalinguistic terms used to characterize spatial expressions. Investigation of the meta-linguistic terms, referred to as query modes, aims to show that they are strategic in delimiting the scope of the analysis to target a particular perspective on meaning (Richard-Bollans et al., 2019). Meanwhile, they can be bundled with a theoretically more explicit description of a language outside a single query mode. Qualitative analysis showed the cluster property of query modes and the flexibility and richness of the descriptions. (Wang-Mascianica & Coecke, 2021)

IV. THEORETICAL FRAMEWORK

Spatial motion is crucial for cognition, perception, and communication. Discussing such events involves "thinking for speaking," resulting in cross-linguistic variation. Research indicates that languages represent various types of knowledge in spatial motion, reflecting cultural and political differences. (Sparvoli, 2018). Talmy's typology of spatial motion event expressions—Motion, Path, and Manner—has greatly enhanced our understanding of how spatial motion is represented. A new typology that merges vector geometry with structural radiality enables a deeper analysis of spatial motion expressions, revealing cross-linguistic uniformity and cultural diversity in the conceptualization of these events.

Analyzing language-cognition-culture data with a principled model provides insights into the impact of language use on data collection, cognition on analysis, and culture on interpretation. This study enhances our understanding of the convergence and divergence of spatial motion expressions across cultures. Findings indicate that understanding how spatial events are conceptualized can clarify perceptions and actions.

4.1. Spatial Expressions: An Overview

Generally, human beings reflect spatial experience in different ways, often depending on natural orientations, such as the sun's movement or the flow of water. These schemas help people memorize locations and distances from reference points. Furthermore, space can be represented from an ego-centered perspective, relating a human position to nearby features (Havas & Resch, 2021). However, this local representation may not suffice in unfamiliar areas. Fortunately, linguistic expressions exist to describe spatial knowledge independent of these schemes, such as "to your right" or "forwards," facilitating orientation against standard axes. The study focuses on 'reference frames'—ways of organizing knowledge and describing spatial relations through embodied perspective roles. A temporal precursor hierarchy consists of three reference frames: 'ego-intrinsic' (body-associated), 'object-intrinsic' (centroid-centered), and 'allosteric' (interpretive associations). Schematization hierarchies emerge for these frames in spaces, such as rooms, and their level of detail (e.g., 13 dimensions related to handrails). Attention-based Dimannian approaches suggest that the structures of space and time are fundamentally similar and conceptualized as manifestations of attention. Observations suggest that spatial reference frames, such as 'above greater than,' correspond semantically to temporally distinct systems. A component makeup representation is proposed for both spatial and temporal reference systems, aiding in defining 'ungrasp' functions that explain how basic reference frameworks are formed from simpler components. (Levinson, 1996) (Levinson & Meira, 2003)

4.2. Types of Spatial Expressions

Human beings manipulate and express spatial relations using spatial expressions. Space can be described as either

absolute, in which the Spatial Relations are determined relative to fixed coordinates of the Earth's surface, or relative, in which the Spatial Relations are determined to an object. There are language-dependent cross-linguistic differences in how spatial relations are described. Speaking a particular language leads to habitual thinking in specific ways.

The distinctions and types of spatial expressions are similar among different cultures. Simple approaches to spatial expressions can illustrate how language influences the mind's understanding of spatial concepts. Research in several areas demonstrates that such distinctions have been given a purely linguistic analysis in terms of grammatical structure. Cognitive scientists posit that this occurs through elaborate mental structures. A comprehensive analysis should consider spatial expressions in relation to pragmatics, semantics, and context and reframed claims to suggest that space is a continuum. The immediacy of verbal communication may set hard limits and challenge aspects of this continuum.

Adopting space as continuous enhances our understanding of spatial communication through various modalities. Analyzing spatial expressions requires considering three spaces: communication, semantic, and physical/fictive. Contemporary verbal, spatial expressions, and unique languages beyond linguistic typology are explored. While acoustic communication is temporally constrained, recent sign languages have developed iconic typing systems that enable spatial signers to express spatial logic effectively.

The dimension of form is a study of simple expressions of analogically time-structured experiences, expressed as linear changes in the position of the speaking body (symbolic place) within the spatial environments of speech. Continuing development of this mode of expression is discussed. Language profits greatly from and are constrained by the limitations of the perceptual systems that all human beings possess. The limits also constrain linguistic typologies. In particular, the expansion of Jackendoff's concepts of ground and figure into a theory of dimension provides constraints on comprehending relations in different media (Terrill & Burenhult, 2008).

4.3. Spatial Expressions in Pragmatics

Discriminatory factors influence perceptions of object placement. Research highlights that all indicators are shaped by culture and recommends collecting empirical data in cognitive science using culturally representative stimuli while avoiding confounding effects. (Levinson & Meira, 2003). The study of space has long been an essential topic in linguistics, but it has often focused on descriptive or semantic typology. History also enters the picture here. Recent trends within the field of linguistic typology have brought this delay into sharper relief. Typological studies of the overall structure of spatial representations have been virtually nonexistent. Recent studies on the textual representation of spatial relations in geographic information systems have adopted a typological perspective, highlighting the cultural concerns underlying such systems (Levinson, 1996). Few traditional resources exist for spatial representations in language or gesture. Some argue that there are independent reasons for this neglect, though it may be a temporary cultural gap. Recent work in both formal and cognitive linguistics has started using online simulations to provide empirical evidence about the influence of culture on language and gesture structures.

4.4 Spatial Expressions as Speech Acts

Speech acts or illocutionary acts are utterances that serve as conduct. They take the form of verbal communication and are based on the speaker's intentions and expectations for the hearer. They are classified into five types: assertive (declarative or representations), directives, commisives, expressives, and declarations Speech act theory predicates the utterances that communicators use in communication Based on something; performatives can enrich types of motion, such as complex, indirect, or ambiguous performatives, as well as interrogative or interjectory performatives. The assessable elements implicated in speech acts are a direct commission or ability, a belief or attitude, a social tie, and a proposition of a specified constative essence involved. The mativeness implicative frame consists of an illocutionary core, a want situation, an enforce condition and an intention condition, along which mativeness implicatures can be virtually projected.

Locational and path motion events are encoded differently in A, S, and P, as well as in Chinese and Hungarian, which are self-sustaining languages. The A carries the encodement with the event role of Instigator. The S-initiated static position change event is explicitly encoded via a polysegmental construction with a closed-continuum pathway constituent. The P carries more comprehensive coding of the event role of the Trajector, including the encoding of ground role ovolus and landmark role ovolus. The core positions of the event roles of A, S, and P in motion verbs are compared in Chinese and Hungarian. Spatial deictic expression in locational and path motion expression across languages are also compared and analyzed Based on the theory of pragmatics, a pragmatic approach to rendering spatial deictic expressions across cultures is sought on both methodological and substantive grounds (Diána, 2015). Deaf individuals in cultures who match the romantic standard vision asymmetry groups are analyzed using methods of corpus-based narrative analysis. Subsequently, low-tech interventions for an innovative and inclusive

world, adopting rounded forms of documentation and place-based sonic world animation, are discussed. It produces new domain-driven narratives that express a deep understanding of the deaf experience and the acoustic world.

4.5 Contextual Factors

Does culture influence how we describe spatial locations? Although it may seem obvious, demonstrating this connection is challenging, especially in everyday conversation. The study began with a cross-linguistic typology of spatial descriptions, identifying variations in spatial descriptions across languages. This laid the groundwork for exploring how these variations impact the construction and interpretation of spatial descriptions. By shifting older themes in cultural anthropology toward geometrical aspects of linguistic diversity related to space, the modern language study emerged as a valuable tool for examining human thought, consciousness, reasoning, and other cognitive domains (Levinson, 1996)

Consciousness of absolute directions was shown to affect basic cognitive tasks, including navigation and classification, reasoning about geometric relations and social categories, as well as the modes of thought available to speakers of egocentric and geocentric languages. However, the question of whether such differences provide genuine differences in experience or affect the ordering of cultural values remains to be investigated, particularly in the social domain. It was expected that in the 21st century, regional, cultural, and moral challenges would become more important, meaningful, and influential than politicians and geographers seem to believe on the eve of it. Only spatial expressions, spatial design, spatial thought, spatial cultures, spatial media, and the importance of cultural being in spaces would become more important for Web developers, media consultants, and architects as well.

4.6 Pragmatic Implications of Spatial Expressions

Spatial language and perception have received increased attention in recent years, with a focus on the cultural implications of semantic implicature (Levinson, 1996). The sharing of a reference or a particular point of perception is essential to the communicative success of deictic phrases. However, while considerable attention is devoted to empirically demonstrating this process, theoretical work on modeling cognition has been limited. Peirce's notion of 'iconic' reference and linguistic externalism provide insights into the processes involved in the culturally conditioned generation of perception-based reference. However, they prove insufficient for a full-blown model of perception and reference. Evans' deictic file strategy can accurately model the perception and false reference in the case of a single speaker in a shared world. However, it is not co-developed to account for different cultures with divergent perceptual routines and different models for the construction of perceptual references. This includes specifying the original focus of attention, storing attended objects, and recruitment of perceptual routines for new reference.

The reasons for this cultural variation in focus should be sought in the social context of perception, in the shape of the subject's world, and its culturally specific semantic ecology (Levinson & Meira, 2003). Both perceptually and socially, there are multiple ways of seeing the world, which in spatial terms amounts to the fact that there are different systems for orienting oneself and constructing language. This linguistic variation is thus partly a consequence of non-linguistic, perceptual, or cognitive variation and partly a reflection of the social embedding of linguistic practice and pragmatics into different sociocultural worlds, which shape how things are perceived culturally and how they can be discussed. The choice of a reference there from this perspective is a reflection of cultural belief systems that are built and conveyed through perceptual and linguistic practice. This leads to the need to specify the cultural system of perception on which the pragmatic analysis is grounded, thereby providing new avenues for research not only in the area of pragmatics but also across a wide array of disciplines.

V. SPATIAL EXPRESSIONS IN SEMANTICS

Levinson & Meira (2003) propose that in addition to the universal categorical typology of space as represented in language, one might seek a more fine-grained semantic typology of space, in which, unlike the categorical cases, particular concepts hypothesized to be cognitively universal would be coded directly in the language, above all in small closed classes such as adpositions. This effort to construct semantic typologies for adpositions is addressed thematically in the first two chapters of the overview volume of the landmark Language and Space conference. Provide a wealth of experimental evidence responding to claims that adpositions shape cognition in interesting and culture-language-specific ways. By addressing conceptual constructs from different approaches and subjecting them to a comparable test, we highlight areas where the evidence yields contrasting conclusions, thereby fostering greater reflection on their current analyses. Additionally, other concepts are explored where a similar synthesis may generate illuminating new data. One aim of previous research is to provide an initial groundwork for future scholarship on cultural and linguistic perspectives of spatial relations.

Furthermore, focused on the relationship between semantic and morphological categories is the chapter by Majid et al. (2015), centered on the degree of overlap that can arise in

the lexicons of closely related languages. It advances the argument that different aspects of polysemy (metonymic, mismatches of frame of reference, grammaticalization) are relevant to the semantic comparison of closely related languages. A more complicated picture of the dynamics of semantic systems and their relationship to surface morphology is painted than simply contending that morphosyntactic similarity implies semantic similarity, as it is argued against Diaz and Saban's claim that the lack of a victor in the study of lexis suggests no suitable framework for Spardino and Levinson.

5.1 Lexical Semantics

Language is more than expressions and grammar; it is linked to cultural and cognitive structures, shaping distinct worldviews. Different languages represent unique perspectives, indicating linguistic relativity. Grammatical categories and meanings can vary, leading to disparate concepts across languages. Recent decades have witnessed significant growth in understanding linguistic relativity and cross-linguistic semantic variations, with a particular focus on expressions related to spatial, temporal, numerical, color, and kinship concepts. Unlike shared human cultural universals acknowledged by scholars, language-relative meaning properties spark debate and remain focal points in linguistics and cognitive science. (Levinson & Meira, 2003) (Majid et al., 2015) .

5.2 Compositional Semantics

The study of compositional semantics faces challenges in languages with free word order but not in Chinese, which follows a consistent SVO structure. An initial issue is how to interpret a sentence like "Wang Tian Zhang ha," which can be broken down into components like "X (agent) on (in) A (ground) Y (thing) Z (thematic role): Wang in sky Zhang." One goal in compositional semantics is to create a linking scheme or introduce new axioms in situation calculus to derive the meaning from its logical form. A broader concern is what a semantic type system needs to address spatial meaning and its relative scarcity in logical forms or formal approaches to meaning variability across languages. The diverse semantic representation of deictic terms emerges as an important topic. Cognitive linguistics recently highlighted the relationship between expression forms and spatial meanings. It will be demonstrated that similar semantic challenges arise with spatial configuration and motion expressions in language and gesture, applicable across all languages regardless of typological perspectives.

5.3 Semantic Analysis of Spatial Expressions

Spatial expressions constitute one of the basic categories of natural language, and they belong to the class of elementary linguistic forms that potential communicators have at their disposal (Sparvoli, 2018). This content is not only conceptually and semantically defined but is also business-oriented. Different languages have created different devices to refer to a spatial state of affairs, and speakers of different cultures have accordingly developed different techniques for communicating basic, perhaps simple, thoughts. However, as a rule, analysis has centered only on either the language or the culture; a comprehensive pragmatic-semantic analysis of spatial expressions found in different languages, as well as across different cultures, is largely absent from the literature. Though the subject and object of reference devices of this kind are in some ways more primitive, they are nevertheless very often more complicated than reference techniques associated with social states and situations. Natural languages have a large variety of spatial expressions . There are physically concrete spatial expressions, and there are metaphorical or abstract spatial expressions.

On the other hand, spatial expressions were defined in different terms in different analyses. For example, under the lexical approach, spatial prepositions were the objects of consideration. Furthermore, under situated discourse pragmatics, several spatial referents and relational terms were defined in relation to various approaches. Hereafter, a unified account is attempted . It is claimed that the first two kinds can be the subjects of analysis in the set-theoretic semantics sense, and the third kind can only be the subject of analysis in the truth constancy dynamic logic sense.

Concerning the use of locative expressions in diverse cultural contexts and compare the resulting diversity, English and Chinese languages have been taken as representatives of different cultures, to clarify how referential attitudes are represented in cognition and linguistically and shaped by cultural constraints in what speakers consider salient and what influences these constraints have on intermediating devices. The common ground of rhetorical purpose or emotional expression serves as the starting point. Regarding ontology, the agendas of public discourse, individual discourse, and discourse representation at the implicature level are analyzed, respectively, in the context of proposing and subordinating speeches. Comparatively, differences in the speakers' attention are examined within a taxonomy of prominence, including figure-ground prominence and relative prominence. At last, the tendency of mutual accommodation in discourse is observed, and thus, the bio cultural expectations of interpreting spatial expressions in narratives are summarized.

VI. CULTURAL CONTEXT

The Human Capacity for Spatial Cognition explores how spatial functions arise from the broader human capabilities

of vision and cognition. A panoramic visual field is crucial for developing spatial concepts, initially providing egocentric reference frames. These functions, evident in early input decompositions, evolve into scaled, abstract, map-like mental representations centered around landmarks. Eye-movement tracking can highlight these capacities, linking processing efficiency to elaboration order and specificity, which provides valuable insights into development. Population Variation in Spatial Reference and Understanding contrasts the prevalent universalism in spatial language with research supporting differing conceptual systems due to significant cross-linguistic variations. This approach establishes a foundation for documenting and reanalyzing notable population differences in spatial conceptualization and their linguistic manifestations. In methodology, novel spatial event representations were created from independent descriptions, tapping into various human spatial coding abilities shared with two distinct adult language groups. Lap Worse languages prioritize absolute terms for describing locations and actions, while Yucatec and English exhibit notable differences in spatial understanding despite sharing references. However, challenges arose in the experiment comparing Yucatec and English, suggesting a need to re-evaluate variables and reconcile performance discrepancies with the inversion. (Levinson & Meira, 2003)

6.1 Cultural Variations in Spatial Expressions

Research across languages and cultures shows a surprising degree of variation in how spatial relations are expressed. The nature and extent of this variation are explored here, with a focus on surface contact relations in 32 languages across five continents. The factors that shape and constrain how different languages profile and lexicalize spatial relation types are considered (Levinson, 1996).

Linguistic relativity is crucial in studying spatial language and perception, particularly in understanding how specific linguistic encodings of spatial relations influence the perception and cognition of non-native speakers. Many observer-based languages offer different terms for the same spatial scene, yet synonymy can render speakers oblivious to distinctions in other languages. Recent focus has shifted to the patterns of spatial description across languages. Beyond detailing individual languages and their lexical strategies, typological studies aim to identify general characteristics in the development of spatial description systems.

Lexicalization patterns of motion events in English, Spanish, Turkish, and Russian are influenced by a limited set of conceptual sequencing parameters. Research indicates that language distinctions shape how speakers perceive the world, suggesting that similar constraints may also appear in other contexts. This study shifts focus to motion events within a cross-cultural language family by examining Chinese alongside these languages, given its role in cross-national communication. The findings suggest crucial differences in Chinese lexicalization patterns compared to the others. However, regarding prototypic event components in lexical expressions, similar trends emerge among the four languages. (Emerson et al., 2021)

6.2 Western Cultures

Spatial expressions, such as "on," "in," "below," and "through," have long intrigued linguists, semanticists, and psychologists because they shape how spatial relationships are perceived and remembered. Research indicates that spatial language and cognition differ across cultures; however, existing studies often focus on either Western or Chinese cultures without providing parallel comparisons. There are specific differences in spatial expressions across different cultures in terms of their forms and cognitive patterns, as well as the reasons behind these cross-linguistic variations Spatial language is a complex expression of humans' attention to their surroundings, yet it often goes unnoticed unless differences are investigated To determine the richness of spatial expressions, a comparative study is necessary Languages exhibit various types of spatial expressions, resulting in distinct cognitive patterns A typology is proposed, classifying spatial languages and cultures based on whether they employ absolute or relative reference frames and whether they prioritize architectural or topological aspects China is categorized as an absolute-frame-based architecture focus type, while the U.S. is categorized as a relative-frame-based topology focus type Differences in spatial expressions reveal various strategies and representations, with underlying cultural motivations examined (Levinson, 1996) (Blasi et al.2022)

6.3 Eastern Cultures

Space is encoded in language in various ways, and this variability has broader implications for cognition and culture (Levinson, 1996). A typology of spatial expression can be developed that distinguishes several translation equivalents across a range of languages For example, in English, "the book is on the table" and "the book is under the table" have distinct forms, which correspond to different features of the meaning (the involvement of the vertical axis) and give rise to different entailments (if it is on, it is above) Suppose two languages have distinct lexical forms for encoding a contrast of T (vertical vs. non-vertical) In that case, this is predicted to correlate with a difference in the availability of non-linguistic encoding strategies relevant to that distinction.

A body of studies testing an initial typology across a wide range of languages corroborates these predictions by

showing significant cross-linguistic variation in spatial cognition and conceptions of space parallel to variation in spatial language However, this research also shows that some languages have specialized complexities that do not find direct external correlates, such as, to take one example from the encoding of motion, the distinctions of source and goal found in Russian and various Finno-Ugric languages, which do not appear to correlate with either difference in frames of reference or differences in the conceptualization of motion The stark case contrasts between several systems thus encompass the full range of variation and can condition the research program in testing predictions based on them These cases of asymmetry of representation are meant as one class of candidates for further investigation.

6.4 Indigenous Cultures

Australian indigenous languages perceive location, motion, and orientation in a distinguished way. While they use terms like 'now' and 'the day after tomorrow,' they lack body-relative terms or egocentric orientation for objects. Instead, orientation is based on observing the terrain, reflecting profound differences in cultural ontology This cultural system, termed an 'Encyclopaedia,' encompasses a lexicon encompassing landscape discourse, culturally relevant topological relations, localized views of space, distinct quantification types, and geospatial coordinates (Levinson, 1996)

Language is one of the deepest cultural resources, where relations of kinship, the exploitation of land, conceptions of self, other, and environment, and much more are inscribed in a complex intertextual nexus. It has elaborated on how a cultural system that builds on body-relative orientations works The prescriptions for the orientation of action depend on the vector of motion concerning the body; hence, they are tightly integrated into the overall concern of navigating and manipulating objects in the environment Expressible localizations rely heavily on the dichotomy but also incorporate the concept of cardinal spatial relations, such as away from the body, upward tilting, or to the left of the body.

In flat environments like the Australian interior, maintaining the capacitor measurements requires different social practices. These practices help decide direction and position, coordinating perception and action for environmental navigation. They facilitate an understanding of object locations and movement, aiding in the collaborative location and relocation of items. This social interaction supports orientation through informal communication. Moreover, the focus is on specific sites rather than global entities, enabling checks on standard model sizes.

VII. CASE STUDIES

According to Levinson, linguistic typology maps thought and language to real systems, contributing to cognitive science. Different cultures interpret ingroup object vectors uniquely; for example, phrases like "the tree will be visible above the mountain" have varied meanings across linguistic cultures. In Spanish, this conveys rich iconic information about the positions and trajectories of moving entities, while in Netherlandish, it conveys only limited meaning, neglecting the spatial context. This leads to divergent communication about motion events and different cognitive preferences regarding object identification. Consequently, a new approach highlights the importance of contextual knowledge in interpreting spatial expressions. Levinson emphasizes socioculturally defined knowledge settings, affecting the contextual relevance of expressions and altitudinal distinctions. He argues that language, rooted in culture, shares much with other semiotic resources, reflecting culturally defined concepts. Each semiotic resource has distinct phylogenies, suggesting that anthropological pragmatics should connect cultural anthropology with pragmatics, focusing on idiomatic symbioses rather than language alone. Until recently, semantic universals were thought to be nearly nonexistent (Levinson, 1996).

Case Study 1: English Language

Spatial prepositions in the English language can denote a vast array of configurations that diverge significantly from their typical meanings. The meanings of spatial prepositions are expressed, on the one hand, by geometrical constraints that regard the relevant spatial entities as geometrical shapes of some kind and their spatial configuration as a relation holding between the corresponding shapes in some referential coordinate system. On the other hand, for many spatial prepositions, some constraints lack a geometry-based interpretation, which concerns the (quasi)-forces acting on the relevant spatial entities and their (quasi)-dynamic changes over time. There is much discussion regarding how their semantics are shaped and understood. The first step involves the development of a representative language testbed, which can serve as an efficient generator of spatial configurations with prepositions (Levinson & Meira, 2003). A wide variety of spatial relations can be effectively denoted, such as 'in,' 'on,' 'at,' 'below,' 'under,' 'next to,' 'between', and so forth. Various scenes denoted by such configurations will be rendered, and corresponding arrangements of objects will be automatically designed in 3D space. Then, the actual configuration and knowledge will be visualized. This will generate a better understanding of the underlying spatial relations. The second step is to investigate how

different spatial prepositions in the English language interpret a configuration. The designed scene will provide a better understanding of the extent to which different kinds of features contribute to the semantics of spatial prepositions (Richard-Bollans et al., 2019). Here, the aim is to facilitate the acquisition of data that support the theoretical analysis. Key features of spatial prepositions, as presented in the literature, are considered Initial attempts to understand and model spatial language focused heavily on geometry. Some of them were based on (convex) polyhedral. Some others were simpler, based on n-dimensional rectangles, used to represent entities as well as spatial relations in a more abstract form, thus permitting a more basic view of their dimensions However, spatial constraints are not enough to fully characterize spatial prepositions. Talmy highlighted the importance of 'force-dynamics' in language and cognition, considering the force interactions of objects as a primitive notion.

Case Study 2: Mandarin Chinese

Mandarin is the most widely spoken dialect of the Chinese language. There has been less attention on how meanings are expressed linguistically across languages than on how it is represented in human cognitive systems. However, it becomes clear that the different lexicalization patterns of languages are associated with specific variations in the overall cognitive styles of speakers, and similar cognitive tendencies should be reflected in the way Chinese speakers express meanings linguistically. Therefore, the study of this is important. The research on the structure of spatial expressions in Mandarin has two foci on the one hand, the constructions involving localizers, which are regarded as necessary for interpreting a scene or an utterance, and on the other hand, the directional motion constructions, which consist of a motion verb and its satellite or an event verb and its complement (Sparvoli, 2018). Directional motion events whose canonical representations are well known involve the change of location of an object or person through linear traversal on a path. In Mandarin, directional motion events include manner motion (path) and manner/goal motion (cause). There is variation in how the motion is construed and expressed linguistically. Formally, such event types or classifiers have been considered airy, and the distinction between classifiers and argument structures is discussed. In terms of semantics, the failure in Mandarin to reflect motion goals learned at an early stage is congenital or error-prone. Finally, a set of novel motion representations in the typologically divergent language, i.e., Mandarin, is presented on the phonological level, considering underspecified inputs and the so-called only-manner effect.

Case Study 3: Spanish Language

The Pragmatic-semantic analysis of Spanish spatial expressions in alignment with either land- or path-configuration geometric structures is conducted. Concerning their semantic classification and matching patterns, the mappings of Spanish spatial expressions fall into four types: type I (land-configuration structure with land- and path-configuration expressions), type II (path-configuration structure with land- and path-configuration expressions), type III (path-configuration structure with path-configuration expressions), and type IV (path-configuration structure with land-configuration expressions). The alignment between the two types of geometric structures is relatively balanced in total. Nevertheless, land-configuration structure-matching Spanish spatial expressions are mainly of type I, while path-configuration structure-matching expressions are mainly of type II. The mapping of Spanish spatial expressions, concerning their preposition or postposition, is relatively even across preposition and postposition. Overall, despite language-specific differences, Spanish spatial expressions share a significant similarity with English and Chinese spatial expressions.

In line with their geometric types, the results were also compared with the Spanish corpus study. The categorization of Spanish prepositions is consistent with the findings of the Spanish corpus study. In contrast to Spanish prepositions, the Spanish postpositions in this study were less diverse. The use of the postposition awareness has declined in recent years. Instead, Sp. "en" seems to be more commonly employed, which may result in a mismatch between the present findings and the Spanish corpus results. Nonetheless, in terms of the semantic content of Spanish postpositions indicate that they mainly include "fuera, atrás, abajo" as finely specified postpositive lexical items denoting boundaries. Such differences and similarities may indicate commonalities or shared features in the processing of spatial expressions in Spanish, English, and Chinese.

Case Study 4: Navaho

Many indigenous languages have ways of reference to the cardinal directions (north, east, south, west) and the elements (oblivion, sky, Earth, bush, river). The Navaho, from the languages of the Apache family, depict such orientation in their grammar as well as through their vocabulary Examples are: *naaltsoos* 'image, pond' from *naal+i* 'to flow,' plus the direction morpheme *tsos* 'to enter into the ground.' Noun stems can acquire a notion of direction: *ha* 'base' becomes *haatç* 'south,' *nin* 'Earth' yields *nin+ni* 'below, underground, at the bottom' (Le Guen, 2011) Knowledge of those elements of the environment is necessary to understand Navaho space,

which is ordered by the panorama of these places rather than any cardinal over-value. Time is also referenced by terms associated with the elements, visibly turning Navaho's views regarding those concepts. Events are viewed differently in different languages. There is no global position that places time on a linear path; instead, there are only locally spatial views of the surrounding universe on which time indexing is applied. Position and orientation are marked spatially or through stems, referring to the posture of real or imaginary situations. There is one adjacency postposition, three positional ones, two superiorities, and six or more orientation verbs. So, either relations may be saddled, gestures may do the same way or systems of co-variant integers may be translated. Those notions highly depend on the environment and the physiological construction of the species and cannot be correctly understood without functional orientation. The last illustrations analyze active cues psychologically and effectively convey intentions and expressive ratios regarding individual directions or speeds, bodily relations and gestures, character feelings, intent, and so on. Here are three basic notions used this way: evaluation on idiopathic warrantees was put on by the principal referent (other types exist); the shape of the premodified sign designated affection; and manner was proportioned to speed, tease, or been affected preposition.

VIII. CHALLENGES IN CROSS-CULTURAL COMMUNICATION

SIG Space was founded as a special interest group to address specific issues within the International Association for Nonverbal Communication and Behaviour. Communication studies from a nonverbal perspective have required attention to two separate domains: gesture, which ranks alongside linguistic concerns proper in the verbal hemisphere, and space, which seeks to incorporate questions of visual communication. The purpose of the SIG is to promote theoretical and empirical research into those aspects of space relevant to communication across the spectrum from architecture through geography to 'personal space' and situational behavior, including issues of map-making and navigation, as well as more abstract modeling and metaphorical, mathematical and musical encapsulation of space.

Despite an increasingly voluminous literature on space behavior, the scientific community remains largely unaware of this field as a distinct area of study. Relatedly, because communication studies have been and remain closely tied to linguistics, it has generally been assumed that the domain in question does not warrant particular scrutiny. The tenor of recent calls for ways to introduce more space into communication studies, often couched in vague, generalized terms, reflects this lack of definition. It is the precise computational nature and communicative affordances of spatial representations, as well as the act of constructing, sharing, and interpreting them, that remain challenges to be addressed.

Nonetheless, eligibility for the SIG is broad; it encompasses both those members working in its definitional territory and others, in the broader equivalent of the 'co-speech gesture' tag, for whom representation of space is incidental. Before long, means will emerge to foster the sense of community necessary for a SIG to flourish One obvious possibility is the production of a multi-disciplinary journal along the lines of Gesture.

IX. MISINTERPRETATIONS

There is an assumption that property terms for space are uniformly interpreted across cultures, supporting the study of common principles of spatial language and cognition. However, this assumption may be incorrect, and cultural and language universals in spatial representation are weaker than suggested. A study was conducted with three communities: one Ojibwe-speaking, one Inuktitut-speaking, and one Huichol-speaking. In all populations, many spatial responses could be classified accordingly. Discussions of possible misinterpretations were included One example was noted in the scientific literature, where cultures are classified based on terminology (e.g., egocentric vs. absolute) for spatial relations. It was claimed that in a specific culture with only absolute terms for space, speakers view a single tree and say 'east0', lacking a 'circular' interpretation. It was expected that this misinterpretation would not be observed in north-western Ojibwe or Huichol communities, as different systems could neutralize such misinterpretations. The unique spatial and linguistic heritage of these Indigenous peoples may serve as a 'counter-example.' (Levinson, 1996)

A second type of plausible misinterpretation was anticipated based on the observably rich visual and functional-perceptual stimulation of spatial relations within the cultures under examination, which is manifestly apparent in the landscape. Here, it was anticipated that, while older respondents might consistently reproduce spatial relations expressed in the picture in their spatial language, younger respondents might sample logically quite different spatial relationships and exhibit an openness to misinterpretations based on perceptual functions. The latter is conceivable because youthful, naive individuals often have a forward perception of phenotypical features and frequently struggle to grasp the cognitive principles underlying an expression. For instance, the alignments and

closure of adjacent letterings in the later alphabet task produce responses with diverse kinds of interpretations around viewpoints or affordances. A third kind of plausible misinterpretation of structure-mapping was anticipated as an over-mapping of spatial language vocabulary onto daily, physically abundant perceptual functions of spatiality. Here, it was anticipated that the observably richer perceptual and functional-linguistic affordance of spatiality within Inuktitut and Huichol cultures would encourage different ways of encoding physicality than across space.

X. CULTURAL BIASES

Yang et al. (2024) propose that the perception of space is intricately structured, involving non-linguistic and cognitive elements that can lead to misunderstandings between languages. The components of spatial configuration-A, R, and R-are interpreted differently in various languages. A is concrete, often an object of spatial significance R denotes an area related to A's location or movement. At the same time, the last R is seen as abstract, often representing a physical boundary, although it can also take on more abstract notions, such as time. While such cognitive representations are common, they do not guarantee similar linguistic encoding. For instance, in Japanese, the locative marker ni denotes both static and dynamic locations but cannot serve as a base for motion verbs, only being followed by particular bound derivational forms. (Levinson, 1996) .

XI. RESULTS

The recent study came up with the results that cognitive and situational contexts: Spatial expressions vary significantly across cultures due to differing cognitive frameworks and situational contexts. For instance, the interpretation of spatial relations can be influenced by environmental factors, leading to distinct expressions for motion and location that reflect cultural realities and everyday experiences. Also, cultural variations in Spatial Language: Cultural variations play a crucial role in shaping how spatial language is understood and used. Different cultures prioritize certain spatial concepts—such as orientation—over others, resulting in unique semantic structures and pragmatic usages that align with cultural values and communication styles. Furthermore, the influence on Identity in Discourse: Spatial terms are instrumental in shaping perceptions of identity and belonging within discourse. They can reinforce cultural narratives and influence the way individuals articulate their identities, especially in political contexts where spatial expressions symbolize connections to land, heritage, and national identity.

XII. FUTURE DIRECTIONS

The previous sections have outlined an examination of the conceptualization of space in different cultural settings where the languages under consideration are used. Although not exhaustive, as it addresses a limited number of cultures, languages, and related spatial expressions, the winding path of pragmatic-semantic considerations, which untangles the variation among intercultural and interlingual forms, reveals some of the nuances among cultures and languages. The salient and predominant choice of specific architectures, patterns, and schemes for space framing, as well as the selection of specific categories of language referring to spatial relations, etc., all generate cognitive representations that obviate the vanishing of cognition on shared cultural grounds over semantic association areas. However, much empirical and theoretical work remains, and some suggestions for fruitful and prosperous future work are provided. Therefore, it is acknowledged, that while there exist many promising leads for empirical inquiries into the temporal and spatial aspects of the usage of spatial expressions using modified experimental paradigms, no data are yet available about the performance of NLP systems on multilingual corpora. Another area of investigation not fully explored in the analysis is that of the 'how' of transfer between languages and cultures in the case of interlingua-based comprehension.

The selection of the static and dynamic frames of references within different cultural settings is a domain that will be focused on intensively. Investigating whether there is any transitory gradience in frame selection across languages, whether some languages attach semantics to their syntactic determination of frame selection, and other related topics could be addressed in future.

XIII. CONCLUSION

It is concluded that the varied spatial constructions stem from diverse sociocultural experiences and paradigmatic differences in understanding the same phenomenon. Spatial expression revealed significant differences in conceptualization and linguistic expression. When languages express spatial relations, they can choose different kinds of reference points according to the regional cultural backgrounds and communicative purposes. There are three basic components in each spatial expression: the figure term, the ground term, and the relation term. Languages differ in encoding methods of source-ground relations, which may give rise to different distances and magnitudes in their usages. With the faithful translation, the lexical aspect is the same in English and Mandarin Chinese. In addition, locative particles can differentially measure

locative events and impose ontological restrictions on the event participants. Linguistic vagueness in spatial cognitions occur cross-culturally.

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