A COMPARATIVE ANALYSIS OF SYNTACTIC STRUCTURES IN ENGLISH AND URDU: INSIGHTS THROUGH X-BAR THEORY AND THE THETA CRITERION

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ABSTRACT

The paper aims to investigate the relationship between argument structure and syntactic realization in Urdu and English, especially the impact of the Theta Criterion on the availability and semantics of arguments. The present research work is mainly concerned with the structural patterns of English and Urdu with special reference to the dissimilarities and similarities between the two languages. The paper considers several syntactic features, such as the position of the words and phrases within the sentence. As a comparative linguistic study, the research aims at comparing the syntactic patterns of the two languages in demarcating how the syntactic structures of the two languages work to build sentences and how the structures of the two languages are related. The paper also considers the analysis of the generative grammar and its principles, especially *the Theta Criterion*, to define the connection between syntactic roles and sentence construction in both languages. The investigation of VPs, NPs and other functional categories in the English and Urdu demonstrates that there are some major typological variations, for example the SOV order in Urdu in contrast to the SVO order in English. The results help to expand the knowledge of syntactic variation and provide the basis for further research in the sphere of comparative syntax, which is essential for typologically different languages.

Keywords: Argument Structure, Syntactic Realization, Comparative Linguistics, Generative Grammar, Syntactic Variation

Introduction

Syntactic structures provide an important component of knowing language at the base and both English and Urdu as members of the Germanic and Indo-Aryan branches of language demonstrate this. As suggested by Radford (2009), *X-Bar Theory* is used as a comparative analysis framework for this research with particular emphasis on the *Theta Criterion*. English and Urdu have the basic word order of Subject-Verb-Object, and Subject-Object-Verb, respectively, not to mention the fact that they use postpositions instead of prepositions. To the end, the paper discusses the syntactic

differences in the order of the components of a sentence, the distribution of thematic roles, and the presence of functional projections based on Lahiri (1998) and Travis (1984).

Based on the analysis of the phrase structures and sentence composition of English and Urdu, the aim of the present investigation is to demonstrate syntactic similarities and differences and to support the propositions with required language samples. In this way, the work makes a considerable methodological and theoretical contribution to comparative linguistics by combining theoretical concepts and empirical data that are relevant to the text and the research questions, but which go beyond the specific languages under discussion. Besides contributing to the existing literature, the present research also enriches knowledge about how syntactic concepts function in various language types.

Theta Criterion formulated by Chomsky (1970) belongs to the most fundamental principles of *Generative Grammar* and mediates between the syntactic and the semantic aspects of the sentence. It makes certain that in any given sentence (say a noun phrase), the number of thematic roles (say, *agentive, patientive, thematic*) equals the number of arguments, and *vice versa*. It helps in the identification of the semantic roles to the syntactic roles in order to avoid confusion of understanding of the meaning of a given sentence. Working with the X-bar theory, Theta Criterion works in the hierarchical structure of *specifiers, heads*, and *complements* to provide a systematic way of assigning the thematic roles. For instance, in the sentence, *John gave Mary book* the verb *'gave'* assigns to the proper noun 'Mary' the semantic role of *recipient* and to the common noun 'book' the semantic role of *theme* respectively, while the proper noun 'John' which is the subject is assigned the semantic role of *agent*. These assignments exemplify syntactic-semantic relations as defined by Chomsky (1981) and Brame (2005) with regards to the relationship between the syntactic realization of a sentence and the semanticians' interpretation of it.

The X-bar schema adds more clarity to this interaction by giving a structural analysis of thematic role assignment. In the example, "John" as the *head* of the NP acts as the agent, the VP headed by "gave" divides roles for its *complements.* The Theta Criterion makes sure that each component of a sentence has syntactic and semantic property in order to have syntactic and interpretable property. Apart from theoretical linguistics, the Criterion is indispensably used in computational linguistics and natural language processing in enforcing the precise identification of thematic roles for parsing and interpretation. Altogether with X-bar theory, it lays stress on the delicate interdependence between the syntactic and the semantic aspects of language pointing out how the elements of language combine to form meaningful communication.

The present paper aims at analyzing the syntactic patterns of Urdu in relation to X-bar theory in conjunction with English language comparison. Focusing on the Theta Criterion, the research explores the possibility of a universal way of constructing syntax and at the same time, considers the problems of applying the uniform theoretical framework on languages as different as Urdu and English. The study shows that there is a shared basis for the deep structures but manifest differences in the surface

structures, particularly in the distribution and analysis of theta roles. These differences show how generic and applied concepts of generative grammar theories need the flexibility to translate the theoretical understanding in languages like Urdu. Pioneering the current research on the basis of Mirza and Hussain (2013), Haq (2016), Kalsoom and Ashraf (2019), the current study intends to contribute an innovative perspective in theoretical linguistics synchronously with the empirical data of Urdu and English languages.

As a result of integrating the Theta Criterion into the X-bar schema, this work builds upon prior research that has mainly dealt with elementary X-bar structures. Whereas previous studies focused on noun and verb phrases, they did not include the advanced works such as the Theta Criterion and Transformational Rules. This research does not consider Transformational Rules while it incorporates the Theta Criterion in order to give a detailed analysis of the syntactic structures in Urdu. These were compared with English in order to find similarities, differences and possible syncopation, thereby, furthering the discussion on the question of whether or not there is a universal configuration of syntax. Finally, this investigation improves the comprehension of Urdu and English syntactic structures and calls for more language-focused research in the generative grammar framework to address the challenges of multilingual systems.

The syntactic structure of Urdu and English has been compared in this paper under the X-bar theory and the Theta Criterion. Some previous studies have been done in different languages, but there is no research that can contribute to recognizing the syntactic analysis of Urdu language. Therefore, the objective of this research is to increase the knowledge of syntax of the Urdu language and the functioning of the Theta Criterion by comparing and contrasting the two languages. The outcomes of the study have implications for theoretical linguistics and have a utility in language teaching, translation and natural language processing.

One of the most important features of this study is the use of theoretical tools, on which X-bar theory and Theta Criterion are based, for the analysis of the Urdu and English syntax. Thus, although the X-bar theory is a major area of research for the present study it provides a contribution to the literature by looking at the interaction of syntactic constituents across both languages according to the Theta Criterion. Through the analysis of the conditions of the formation of simple sentences and complex phrases, it makes the necessary advancement to the development of linguistics as a science, the elucidation of the principles of a universal language, and the identification of peculiarities in the languages under analysis, namely Urdu and English.

The objectives that the researchers have defined for themselves are as follows: a) to investigate the distribution of thematic roles assigned to arguments in various sentence types and syntactic structures in English and Urdu; b) to investigate the relationship between argument structure and syntactic representation in Urdu and English with special reference to the Theta Criterion. Their study attempted to address questions such as in the light of the Theta Criterion theory how the thematic roles assigned to arguments in English and Urdu are different and what the effect of

interaction between argument structure and the Theta Criterion could be on distribution and interpretation of syntactic structures in the two languages.

The research is significance in the sense that use of X-bar theory with special references to Theta Criterion in Urdu and English syntax help a lot to have a clear view of the universals and diversities of syntactic structures. In the approach of such comparisons, following Chomsky (1995), these comparisons could contribute to the understanding of the syntactical and communication role and help to advance the linguistic theory, language education and translation, and natural language processing. This paper employs X-bar theory to analyze the top-level structure of sentences in both languages and consequently enhances the understanding of their structure and function.

This work meets the identified research gap in the context of Urdu's syntactic structures by employing X-Bar Theory with a special focus on the Theta Criterion that has not been studied enough. Thus, the research with the help of analysing the thematic role assignments in Urdu and comparing them with English language will reveal some linguistic patterns and provide deeper insights about the Urdu grammar. The implications of the results are useful for language education, natural language processing and machine translation as well as for the creation of linguistic tools and additional research.

Literature Review

Radford (2004 p.1) defines syntax as the ways words are arranged in phrases and sentences in order to enhance the knowledge of grammatical processes inside various languages systems. However, syntactic analysis has now moved from the traditional grammatical conception to the Chomskyan cognitive revolution. The old grammar focus on categorizing the syntactic elements as different and discrete entities such as nouns and verbs that did not provide adequate account of natural language learning processes (Radford, 2004). Chomsky (1986) used Universal Grammar to stress the I-language as the native speaker's endowment for language acquisition across the world. When Chomsky brought linguistic theory to bear on human language faculties, he turned grammar into a study of mental capacities. This paradigm spotlights syntax as a problem and stresses syntax's elemental place in the human mind and language use.

Syntactic structure in Pinker (1994) concerns itself with the concern of connecting language and thoughts, afforded the structure in which production and comprehension of languages takes place. For that purpose, such tools as grammatical categories, phrase structure rules, transformational rules, and tree diagrams are a major means of analyzing the sentence structure and meaning, interacting between morphology, semantics, pragmatics, and phonology (Adger, 2003). Tree diagrams, a tenet of language analysis, address the structures and mechanisms governing how bodies of language form sentences in all languages studied. They explain how a set of words form meaningful sentences and in the process explain how ideas are connected or organized like a language mind.

Linguistic research in the present age has been undertaken almost all the major issues and aspects concerning language and its various aspects ranging from micro-linguistic

branches of pure structural and formal aspects to the various macro-linguistic branches (both inter- and intra-disciplinary) encompassing a range of overlapping and common areas of investigation (see, Ishtiaq et. al., 2021a, 2021b; 2022a, 2022b, 2022c, Ali et.al., 2018, 2019a, 2019b, 2019c, 2020a, 2020b, 2021, 2022a, 2022b, and Majid et. al., 2018, 2019). Among numerous aspect of mutual influence in a multilingual society, the impact of translations is also a worth noting phenomenon as has been thoroughly discussed by Ishtiaq et.al. (2022).

Theta Criterion

Central to this view is the Theta Criterion, part of Chomsky's universally consistent framework of human linguistic capacities that are a readily identified aspect of the species' genetic makeup. It ensures a strict one-to-one correspondence between arguments and theta roles in syntactic structures (Chomsky, 1981:36). For instance in a sentence such as 'Alex eliminated Jordan', the verb helps to define the fulfilling of the criterion of 'Initiator' to Alex and 'Target' to Jordan. On the other hand, those as "Alex eliminated" or "eliminated Jordan" break this rule and are, therefore, ungrammatical because of unassigned roles. It regulates sentence creation by demanding that the predicates should possess all the arguments that can be derived from their lexical features (Haegeman, 1994; Carnie, 2007; Radford, 2009).

The Theta Criterion also works with X-bar theory where theta roles are restricted by the theta grid of a verb. For example, the verb 'give' has the form [agent, theme, goal], The specifier of this verb is 'John', the complement is 'a book' and an indirect object is 'Mary'. This alignment guarantees that the meaning of the sentence is grammatical as in "John gave Mary a book." However, when a role stays vacant, as in "John gave Mary," the latter actually looks like an illegitimate construction (Bobaljik et al., 2011; Ouhalla, 1999). The criterion thus enlightens a substantive paradigm for deciphering syntactic patternings and the relationship that throws up between the predicates and the arguments in language.

Theta roles and Argument Structure

First, the Theta Criterion formulated by Haegeman (1984) requires each predicate to assign a single theta role to its arguments. This categorization is illustrated by such roles as Agent (external) and Theme (internal), where predications may refer to actions (Williams, 1987). Moreover, while an individual argument can participate in several thematic relations (Jackendoff 1990), two arguments cannot bear the same theta role (Dowty 1991). English syntax is consistent with this claim. Agents are usually subjects while Themes are objects, Agents are ranked higher than Themes and Themes are ranked higher than Goals (Baker 1996; Borik & Mateu 2014). Verbs differ in terms of how many arguments they take: one, two or three, which underlines the dynamics of roles determined by verbal semantics (Adger, 2007).

Semantic roles also define clause structure by associating arguments with other parts of a clause and regulating thematic relations (Lehmann 2005, Wechsler 2005). These roles are not fixed as they depend on the hierarchal structure and frequency of the language used (Rappaport & Levin, 2007). The theories proposed by Fillmore (1968, 1977) of "deep cases" and Dowty's (1991) assessment of the subject selection models

show that events, actions, and objects are interrelated in the definition of verb properties. External and internal arguments, as well as the applied arguments in Hiaki and other languages, show that causative verbs and applicative morphemes contribute to the structural variation (Harley, 2012; Marantz, 2012). These aspects speak to the complexity of semantic roles and theta assignment across different languages and make a significant contribution to the richness of the analysis of syntactic and thematic relations.

Theta Roles and Thematic Relations

Theta roles are briefly the thematic relations that are associated with definite arguments in a sentence; they are the key to the semantic analysis of the sentence (Carnie, 2006). For example, a simple sentence, for instance, *Ali handed Peter a present* and the three *arguments* in this sentence are *Ali, Peter* and *the present* involves five *thematic roles*. Ali plays the role of the sender as well as the actor who starts the action. The present symbolizes the theme, the object that is being transferred. Peter acts as the receiver of the gift, and as the purpose, the end result of the action. This example shows how verbs link theta roles to the arguments and how they are assigned to the predicate as well (Radford, 2009). As such, these roles express the semantic roles referring to participant and predicates with focus on the dynamics within the structures of a sentence.

In another example, *He was apprehended by the cops,* the cops are *the actors* in this case, and he is *the patient*, subjected to apprehension by the cops. Agents are always the subjects which perform actions while themes are often the objects which undergo actions or events (Carnie, 2006). Theta roles including agent, theme, goal, source and recipient are used to describe this relationships and offer a clear framework of how to analyze the semantics of a sentence. The other roles such as experiencers, instruments and beneficiaries show how arguments are related to predicates in other ways. Apart from mimicking the syntactic structure of the sentence , these roles also hold the broad reader-dependent semantic content of the participants and their doings in a given scenario.

The Relations between Themes and Agents and Thematic Theta Roles

Thematic relationships connect individuals with the situations they are involved in, and focus on the relations between them in these settings (Davis, 2009; Fabregas, 2014). As one argument can be filled with one or more theta roles, no two arguments can be filled by the same theta role at the same time (Dowty, 1991). This principle is well demonstrated by agents, which are usually the doers or starters of an action, (Carnie, 2006). For instance, in the sentence, *Lear smacked John,* Lear, the person carrying out the smacking, deliberately so, on John. Likewise, in the sentence, *David was the one who shattered the bottle*, the subject, David is the one who actually breaks the bottle. These examples show that arguments like Lear and David fit into Dowty's (1991) analysis of agents as active and intentional in their actions.

Comparative Studies

X-bar theory which is a branch of comparative linguistics enables analysst to gain an understanding of the general laws of syntax and peculiarities of specific languages. X-

bar theory, later developed by Chomsky (1995) states that all phrases have a head element and this provides a good background for comparing syntax differences between different languages across the globe. For example, English and Urdu, are syntactically different but both languages complement hierarchical phrase structures that are expected by X-bar theory. English basically follows SVO order with specifiers always coming before the heads and the complements following the heads (Radford, 2004). Urdu in contrast has more flexible word order but it is head-initial language at the level of NP and VP in agreement with the general syntactic principles (Butt, 1993). Other papers such as the works of Miyagawa 2010 on Japanese language and Torreco 1998 on Spanish also support the idea that X-bar theory is also useful in analyzing different complicated structures in various languages.

Even though X-bar theory and the Theta Criterion offer powerful instruments for syntactic analysis, they raise important concerns with regard to the range of linguistic variation. Some works like Newmeyer (2005) and Baker (2001) point out the strickness of X-bar theory especially in the analysis of languages with free word order. Likewise the implementation of theta roles while completely theoretically sound, is not universally similar across languages and thus requires a deeper analysis. Subsequent theories such as the Minimalist Program by Noam Chomsky (1995), and others, detract from some principles that are embedded in the X-bar theory in this way. Other research, which engages in comparisons of the English language with other languages such as French and Dutch as well as explorations of the relation between syntax and semantics, which was conducted by Koopman (1984) and Jackendoff (1977) respectively, also support the theory at the cognitive level. However, there are not enough studies that implement X-bar theory for the South Asian language, especially Urdu, with few works such as Butt and King (2003) that focused on Urdu complex predicates. Extending this comparative perspective to other languages such as Urdu offers an opportunity to improve the identification of syntactic universals and language-particular properties as envisaged by Fatima (1979) and other researchers.

Research Methodology

The following section outlines the processes that have been used to fulfill the purpose of this study, as well as the research's philosophical premise. The paper is organized into several parts providing information on the research methods, data collection, analysis framework and the data analysis. This research study uses a qualitative research approach whereby a comparative linguistic research method is employed to analyze English and Urdu syntax. The analysis is grounded in two theoretical frameworks: Of the generative grammar theory, we have X-Bar Theory and the Theta Criterion. The data for this study was collected from natural language, examples of noun phrases (NPs), verb phrases (VPs), and prepositional phrases (PPs) within Generative Tradition of Urdu and English grammar texts. Applying X-Bar Theory, the syntactic formations of these two languages have been described and classified.Theta Criterion was used to analyse how such roles as agent, theme, and goal are mapped onto the syntactic features of both languages. The analysis showed syntactic parallelism and divergence across languages to shed light on syntactic variation.

Cross comparison across languages such as word order, verb agreement, tense, aspect, and prepositions/postpositions were compared in order to ascertain syntactic affinities, and differences, between the English and Urdu languages. Methodological tools such as tree diagrams were used to show the hierarchical syntactic structures of the two languages to enable their analysis based on X-Bar Theory and Theta Criterion. Data analysis procedure involved structural analysis, such as the X-Bar theory was used to break down the sentences and phrases into constituents. It was followed by theta role assignment where thematic roles for NPs, VPs and PPs were determined and contrasted. Finally, comparative analysis was carried out with a specific focus on specific differences between the syntactic structures of the two languages at the phrasal, clausal, and sentential levels, with a view to the typological characteristics.

Data Analysis

This section assessed X-bar theory by Chomsky in a critical manner whereby the generic applicability of Specifier, Head, Complement, and Adjunct rules within English and Urdu was evaluated based on the lexical, phrasal and clausal levels. The research focused on the transformational operations in English constructions, involving the analysis of the assumptions of the X-bar schema in order to determine the psychological reality of Adjunct and Complement rules. Using X-bar theory, the research checked its generality for Urdu and then compared and contrasted it with English syntactic structures to evaluate the generality of Chomsky's phrase structure rules. The first principle of Chomsky's transformational grammar model indicated that there are common lexical categories and phrase structure across all languages, and developed to encompass nouns, verbs, adjectives and the rest of it. However, cross-linguistic validation is faced with challenges by the differences in lexical categorization. The present study examined syntactic variation of noun, verb, and prepositional phrases in English and Urdu and extended the generic research to phrase structure in languages.

A Comparative Analysis of Noun Phrases in English and Urdu Through the Lens of the Theta Criterion

The present study compares the theta roles of Noun Phrases in English and Urdu by applying Theta Criterion and it is observed that there is a shared similarity as well as disparity in assigning and in the syntactic realization of the theta roles. For the English language, a rigid Subject-Verb-Object structure is used for planning completion and determiners and prepositions serves as a way of syntactic marking. For instance, in the sentence *"She gave him a book"*, the verb "give" designates "she" as the agent, "him" as the recipient and "the book" as theme. For these roles, Urdu has a relatively free word order: Subject-Object-Verb (SOV), but the roles are indicated by case and postpositions. In the equivalent Urdu sentence, *"os ne us ko kitaab dii"*, *us ne* (she) takes the agent role marked with the ergative case, *us ko* (him) is the recipient marked with the dative case, and *kitaab* (book) is the theme in the nominative case. Both languages, therefore ,satisfies the Theta Criterion though the manner of role assignment is different for the two languages as English resorted to order while Urdu uses cases in combination with post positions.

The analysis also highlights typological differences in phrase structure. In English, NPs often include determiners, as seen in *"The teacher teaches the students"*, where *the teacher* (agent) and *the students* (theme) are marked by determiners. Urdu, on the other hand, uses adjective-noun agreements and case markers, as in "علموں طالب استاد کو پڑھاتا ہے" (*ustaad tālib-ilmōn ko parhāta hai*), where *ustaad* (teacher) is the agent and *tālib-ilmōn ko* (students) is the theme, marked with the postposition *ko*. Furthermore, Urdu's adjective-noun agreements, such as آدمی بڑا (*bara aadmi*, big man) versus عورت بڑی (*bari aurat*, big woman), add complexity compared to English adjectives, which do not change form. These structural differences highlight the absolute generality of the Theta Criterion in assigning roles such as agent, theme or experiencer, but also signal the different syntactic strategies for each language in the context of the X-Bar Theory.

A Comparative Analysis of Prepositional Phrases in English and Urdu Using the Theta Criterion

The structural formation of the PPs also bear the difference of the SVO and SOV structural order in the English and Urdu languages. Most of the time in English, PPs come immediately after the noun or verb they modify, as in [PP in the room], where PP is a complement that gives information of the location of 'She slept'. Strictly speaking, all the English PPs are organized in according to the X-bar schema, which means the preposition simply called P is the head of the phrase and the noun phrase (NP) functions as the complement. On the other hand, postpositions come after the nouns which they are related to; Urdu, for example, سویا میں کمرے میں (Main kamray mein soya/'I slept in the room'. In the above sentence, "میں کمرے" (in the room) works as the postpositional structure of Urdu language which holds X-bar order adhering to X-bar principles while showcasing its distinct configuration.

Theta criterion for role assignment

In English, the place of theta roles of PPs is given by verbs in form of complements and adjuncts. For example, in the sentence, "She gave a book[PP to John], "to John" has the recipient role. On the other hand, Urdu's syntax allows for more flexible role assignments influenced by the context and postpositions. For example, "کتاب نے میں لکھا میں" (*Main ne kitab mein likha*, "I wrote in the book") assigns a locative role to "میں کتاب" (in the book), while "ہے کچھ بہت میں کتاب" (*Kitab mein bohot kuch hai*, "There is a lot in the book") shifts the role to content. This flexibility highlights Urdu's capacity to use the same PP for different roles based on semantic context.

For example, the sentence , "لکھا میں کتاب نے میں" Main ne kitab mein likha, "I wrote in the book", has locative gendered "میں کتاب" (in the book) but, "ہے کچھ بہت میں کتاب" Kitab mein bohot kuch hai, "There is a lot in Such flexibility proves that Urdu can use the same PP for both roles depending on the semantic environment it is used in.

Contextual Influence and Flexibility

About grammatical notions such as *aspect* and *tense*, Urdu plays an even heavier role in determining PP roles that is not so largely observed in English. For instance, "کتاب میں

"ہوں رہا پڑھ سے" (I am reading from the book) uses '_سے_ (se)' to point to the source; while "ہوں چکا پڑھ سے کتاب میں" (*Main kitab se padh chuka hoon*, (I have read the book), on the other hand, reinterprets '_سے_' as an instrument. Similarly, "وہ کہانی پر لکھ رہا ہوں" (*Main kahani par likh raha hoon*, "I am writing on the story") denotes the topic, but in "کہانی پر لکھ چکا ہوں" (*Main kahani par likh chuka hoon*, "I have written on the story"), "_پر_" (*par*) implies completion. These examples underscore Urdu's rich syntactic flexibility, where the same postposition adapts based on verb aspect or tense.

Comparative Analysis and Key Insights

Despite the fact that both English and Urdu employ PPs in both the role of complements as well as adjuncts, the syntactic distribution is distinct. English PPs are structural and prepositional and the range of theta roles is limited to prepositions. Because of the postpositions and the free word order in Urdu, the PPs can take roles like a location, an instrument, or a purpose depending on the context. Also, they described the complexity of the interaction between verb aspects and PPs in Urdu is not present in English. Such contrasts bring out the differences in structure between SVO and SOV languages where the analysis of PPs shows how each language in its own way and style tries to understand its syntactic and semantic aspects.

A Comparative Analysis of Verb Phrases in English and Urdu Using the Theta Criterion

The Theta role assigned to Verb Phrases (VPs) under the Theta Criterion in English and Urdu is that both the languages assign theta role to the VP as a whole frequently reflecting the predicate. VPs of English are head – initial, the head of which is the verb, and can take DP , PP or CP complements. For example in the sentence, 'She gave him a book' , the VP 'gave him a book' is the recipient of predicate theta role where 'him' and 'book' are the complements portraying the function of recipient and theme roles respectively. English also employs movement of arguments, as seen when the subject *"she"* moves from the VP to the Tense Phrase (TP) to fulfill syntactic requirements, leaving a trace within the VP. This movement illustrates English's reliance on fixed word order and syntactic positioning to encode theta roles.

However, Urdu possesses a head final property that means that the verb in the clause comes after complements. For instance, in the example shown in the Urdu equivalent "os ne os ko kitaab dii". In the VP "us ko kitaab dii, where the theta role is the predicate role of the subject is not changed. Unlike traces, Urdu uses case markers like "ne" (ergative) to mark the agent, and hence the subjects can remain in the VP. The lack of subject movement is evidence that morphology plays the important role in Urdu instead of the position of syntax. Both languages observe X bar theory regarding structure but while English has adopted post positions and movements of subject, the Urdu language restricts them in favour of postpositions.

Here, it is seen that it is the structural divergence between two languages which determines the behavioural characteristics of VPs with respect to other constituents in a sentence. English employs position and specifiers and complements to encode roles while Urdu employs the location and postpositions for theta-role annotation. For

example, in "She quickly eats a sandwich in the library", English places the SVO as the coda of the VP, sandwiched by adverbial specifier (quickly) direct object (a sandwich) and PP complement (in the library) because English is an SVO language. However, Urdu encodes the same structures in a different way, e.g., "Woh library mein sandwich jaldi khata hai" means "He eats the sandwich quickly in the library", the order is changeable. They pointed out that both English and Urdu follow the Theta Criterion but, at the same time, offers different syntactic patterns, where the order is flexible, and the VP retains its head-final configuration. These differences underscore the shared adherence to the Theta Criterion while showcasing distinct syntactic strategies between English and Urdu.

A Comparative Analysis of Overall Phrases, Their Sentence Placement, and Associated Thematic Roles

It is also evident that thematic roles in arguments of English and Urdu have a difference because of the difference in the word order and case. Above all, Theta Criterion claims that each of the arguments must, therefore, be assigned a different theta role, such as agent, patient, or theme depending on the relationship with the verb. As for the syntactic roles, the rigid SVO structure is fixed in English for these functions to occur. For example, in 'John loves Mary', John, the subject owns the agent role and Mary – the object owns the patient role. In English, simply swapping around the position of the words changes the meaning as in the active and passive sentences, "Mary loves John", or makes the sentence ungrammatical to say the least as in, "Loves John Mary". This reliance on a rigid word order affords clear identification of the thematic roles, for the language.

On the other hand, Urdu has more or less free Subject-Object-Verb (SOV) structure and to determine the thematic roles, it uses some markers. For example, in the sentence, "Ali ne kitaab parhii" (literally, "Ali read a book" the agent is marked with "ne" and the patient, "kitaab" with the absolutive case. It also retains the same meaning whether it is written as "Kitaab Ali ne parhii" (The book Ali read). It also applies to questions where word order allows distinction between, for example, active voice and passive voice: Ali ne Zain ko maaraa vs Ali ko Zain ne maaraa.

The relationship between argument structure and the Theta Criterion also comes out clearly in syntactic processes such as the use of passive voice, impersonal constructions, and locative inversion. English makes passive voice via auxiliary verbs and past participles such as active construction, e.g. John loves Mary and passive construction e.g. Mary is loved by John. Urdu does it by changing verb suffixes and case markers, for example, Asad ne kitaab parhii (Asad read the book) to kitaab Asad se parhii gayi (The book was read by Asad). In both languages, all impersonal constructions employ what in English can be referred to as dummy pronouns ('It rains') or in Urdu, the so-called flexible subject–verb agreement (Barastaa hai). Like locative inversion, which also puts emphasis on the location, Urdu does not contain dummy pronouns making the construction easier. These differences also highlight where English relies on word order, whereas Urdu has a case-marking system and more

variable word order, making a nuanced thematic role assignment more complex; hence these are problematic for syntactic analysis and natural Language Processing.

Discussion

Implementation of X-bar Theory to the Urdu and English languages shows the versatility of the theory in explaining the rigid phrase structure of the English language and at the same time pointing out the problems faced while implementing the theory in the flexible phrase structure of Urdu language. The flexibility of the Specifiers, Heads, Complements, and Adjuncts in Urdu, therefore, poses a challenge to X-bar Theory every time one tries to use it to explain syntactic behavior of languages with high syntactic flexibility. Likewise, although Theta Criterion works quite systematically in English with respect to theta role assignment through fixed syntactic positions, the use of postpositions in Urdu leads to context sensitivity, which enhances semantic interpretation but creates problems for standard syntax. Lack of articles in Urdu and differences in construction of noun phrase add to that and thus, there is need to make theories more finer to capture structural and functional differences. The implications of these findings can be applied to the field of language education and computational linguistics providing a new perspective on the teaching methods and the new efficient algorithms of natural language processing. However, the study is limited to two languages, showing that there is a great scope of similar research in other languages belonging to different families to add greater support to these syntactic theories and open new horizons for more inclusive and versatile linguistic paradigms.

Conclusion

The present work demonstrates that the difference in syntax and flexibility of the English and Urdu language leads to differences in the Theta Criterion assigning the thematic roles through the comparative analysis of the two languages. In English, theta roles like agent, patient, and theme are well defined depending on a rigid SVO order so that one cannot be in doubt as to which role the particular theta role is going to play. On the other hand, flexibility of the syntax of Urdu Subject-Object-Verb (SOV) has a scope for the flexibility of theta role assignments due to the case markers as *ne* (ergative), *ko*(dative), tenses and aspects of verbs. This flexibility in Urdu allows a single prepositional phrase to have one or the other theta role based on the context of the word in question and it can be used to mean location, instrument, cause and so on. These results signal the relationship between argument structure and thematic role assignment, arguing for a systematic yet lexically restrictive approach to English compared to Urdu's morpho-semantic system.

Explaining the differences in Theta Criterion, the thematic roles assignment in English and Urdu differs mainly because of typological and syntactic flexibility. English uses theta roles according to the word order of the language where a subject, verb and object (SVO) decide the roles such as agent, patient, theme. Urdu follows the Subject-Object-Verb (SOV) word order but uses other markers, specifically ne (ergative) and ko (dative) to identify the various roles that a noun phrase may play; thereby permitting free movement of constituent phrases across a sentence without loss of meaning. Also, the aspect and the tense of the Urdu verb can affect theta roles of prepositional

phrases (PPs) and are completely different from English where theta roles for PPs are invariant of tense and aspect. These differences underlined that Urdu uses morphological markers rather than positional syntax to provide semantic layers while posing questions to the generative grammar models like the Theta Criterion that presupposes that there is only one way of assigning thematic roles.

The research is useful to understand the empirical use of the Theta Criterion regarding the English and Urdu languages with focus on how thematic roles are assigned to them which are two different types of languages. As for the theta roles, the English language is strict and where theta role assignment is concerned, it is predetermined by the word order and verb meaning. On the other hand, Urdu is far more flexible and uses case markers and post positions to assign theta roles and the same word can play different role depending on context, verb aspect or tense. For instance, Urdu's syntax allows PP's if you will, to play role of a subject, object or an oblique to name a few, indicating flexibility in the language. The study supports the generalizability of Theta Criterion and at the same time makes one understand that there are certain conventions specific to certain languages that may be used to describe the same semantic relations as in Urdu.

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