



Research Consortium Archive

P(ISSN) : 3007-0031

E(ISSN) : 3007-004X

<https://rc-archive.com/index.php/Journal/about>



SYNTACTIC CONFIGURATIONS OF X-BAR THEORY IN PASHTO

Dr. Amjad Ali

Assistant Professor of English, Islamia College, Peshawar. Email: amjadali2008@live.com

Dr. Muhammad Waqar Ali

Assistant Professor of English, Islamia College, Peshawar. Email: waqarali@icp.edu.pk

Ms. Somaila Shahid

MS, Lecturer, Department of English, Government Polytechnic Institute for Women, Peshawar. Email: somailashahid@gmail.com

Publisher : EDUCATION GENIUS SOLUTIONS

Review Type: Double Blind Peer Review

ABSTRACT

This paper undertakes a syntactic analysis of X' theory in Pashto language. X' theory describes the syntactic configurations of noun phrases (NPs), prepositional phrases (PPs) and verb phrases (VPs). It stipulates that every phrase in English is headed by a head word X' which stands for any variable and can take a phonological realization in the form of a noun, preposition or a verb. The head is branched off into complements and adjuncts. Complements (ZP) are sisters to the head and hence are obligatory. Adjuncts (YP), on other hand, are not immediately dominated by the head X' and hence are optional. The theory also introduces the functional term "specifier" which precedes the head in English. Based on the theory of analogy, the study examines the structures of English phrases in Pashto in the first half of the section. The second section delves into the syntactic configurations of X' theory in Pashto. The study concludes that unlike English, Pashto is a complement -first and head-final language. It, however, shows variation in future orientation structures wherein the head precedes the complement. The analysis of X' theory in Pashto provides a linguistic validity to the theory and proves its universal applicability.

Keywords: X' theory, Complements, Adjuncts, Specifier, Phrase Structure, Pashto Syntax

Introduction

According to X' theory fundamental to generative grammar it explains how human language structures phrases into hierarchical elements. From Chomsky's 1975 initial suggestion we can now use this theory to reveal basic syntactic sentence-building patterns that exist across multiple languages up to present day. The integration of X' theory with Pashto forms a comparatively underdeveloped research front due to its distinctive grammatical conventions.

The Indo-European language Pashto maintains distinctive morphological and syntactic features which separate it from both Afghan and Pakistani languages and English. Generative grammar studies have paid little attention to Pashto even though the language remains important. Scientific research about this language syntax has adopted mainly descriptive approaches.

This paper establishes a connection between available research by examining Pashto syntactic structures through the X' theory framework. This study explores Pashto phrase structure rules for NPs and PPs and VPs analyzing specifier-head-complement patterns along with adjunct placement. This research investigates the applicability of X' theory in Pashto to develop our understanding of the fundamental linguistic rules while examining how distinct structural properties shape language syntax within individual languages.

Literature Review

The X' theory as introduced by Chomsky (1975) delivers a category-agnostic framework for phrase-structure rules. The theory

obtains broad use in linguistics research that explores languages beyond English. Few researchers have investigated how X' theory can be used to study Pashto syntax besides English.

Research demonstrates Pashto as an Indo-European language used in Afghanistan and Pakistan maintains specific syntactic properties that resist translation into English syntax (Huddleston, 2012). Pashto operates with complement-first and head-last structure while English follows head-first principles in word order.

X-bar theory, as proposed by Chomsky, has been widely applied to various languages, including English, Urdu, and Pashto, to analyze their syntactic structures. Recent studies highlight the structural parallels between English and other languages, emphasizing the universality of syntactic principles (Ishtiaq et al., 2022). The application of X-bar theory to Pakistani languages, particularly Urdu and Pashto, reveals significant insights into their syntactic configurations, highlighting similarities and variations in phrase structures (Ishtiaq & Gill, 2024). Additionally, language attitudes play a crucial role in shaping linguistic preferences among Pashto speakers, particularly towards English (Ali & Rahman, 2020). Moreover, phonological reduction in Pashto has been examined, shedding light on its impact on syntactic constructions (Rahman et al., 2020). The reinterpretation of traditional syntactic and semantic structures under Chomsky's Theta Theory has also been explored, challenging conventional ideals (Ali et al., 2021). Further, studies on Chomsky's Binding Theory provide insights into the interaction of semantics and pragmatics in syntactic configurations (Ali et al., 2021). Comparative analyses of syntactic structures in English and Urdu through X-bar theory and Theta Criterion offer deeper linguistic perspectives (Arshad et al., 2024).

This study analyzes the X' syntactic patterns of Pashto by tracing the development of noun phrases (NPs), prepositional phrases (PPs) and verb phrases (VPs). Data demonstrates Pashto utilizes phrase specifiers exactly as English does. The factor determining specifier placement depends on phrase structure.

This research investigation shows that Pashto exhibits unique prepositional phrase syntactic patterns unlike those found in English language. Within Pashto grammatical structures the head P follows its complement NP which contrasts with English because in English P comprehends NP after it.

In Pashto VP analysis the head V follows the complement XP as the second element while English requires V to occur before the XP. Future-oriented structures in Pashto show a pattern with head-first and complement-last ordering while main structures maintain their typical syntactic sequence.

This research enhances our knowledge about Pashto syntactic structures and demonstrates why language-specific variations need consideration during X' theory application.

Methodology

A qualitative research design understudied syntactic X' theory configurations in Pashto. The research design consisted of two phases: data collection and data analysis.

Data Collection

The data for this study were collected from a variety of sources. The researcher evaluated previously published research on both Pashto syntax and X' theory in order to locate seminal theoretical works and recognized studies. To collect language data regarding syntactic structures alongside validation of results the researcher spoke with Pashto native speakers about language syntax. This research examined patterns and structures obtained from analyzing an assembled collection of Pashto publications that incorporated books with articles together with news reports.

Data Analysis

The research team evaluated their gathered data through qualitative content analysis. The analysis involved the following steps:

1. Transcription and translation: Investigators prepared English translations from the original interview data to enable insightful research understanding.
2. Identification of syntactic structures: The research utilized transcribed and translated data for syntactic structure analysis of noun phrases prepositional phrases and verb phrases.
3. Application of X' theory: X' theory principles were applied to analyze the syntactic structures through which researchers determined specifier-head-complement ordering along with adjunct placement.
4. Comparison with English: A cross-matching of linguistic patterns occurred between the examined English structures and their respective counterparts from the study.

Reliability and Validity

To ensure the reliability and validity of the findings, the following measures were taken:

1. Triangulation: Results were triangulated through data collected from existing research literature along with native speaker consultation and language corpora analysis.
2. Peer review: A group of peers reviewed both the research design and methodology to confirm their validity and reliability.
3. Member checking: The research findings underwent native Pashto validation processes conducted by local speakers in order to confirm their accuracy and reliability.

Analysis and Discussion

Introduction to PSRs

Phrase Structure Rules (PSRs) (Chomsky 1957) describe every phrase with a head and complements. For instance, a noun phrase (NP) in English is headed by a noun (N); an adjective phrase (AP) by an adjective (A) and a prepositional phrase (PP) by a preposition (P). However, a constituent like adjective can never head a verb phrase

(VP). PSRs sum up these rules in the form of projection rules given below:

- (1) a. NP ----- (Det) N'
- b. N' ----- (AP) N' (PP)
- c. N' ----- (AP) N (PP)

(1a) means that an NP consists of a head (N') and an optional determiner. Note down that the concept "determiner" is a functional category which was first outlined in the X' theory. Likewise (1b) says that the head of an NP marked as N' may further branch off into optional AP (adjective phrase) and PP (prepositional phrase). Rule (1c) states that the head N' must contain an obligatory N and optional AP and PP.:

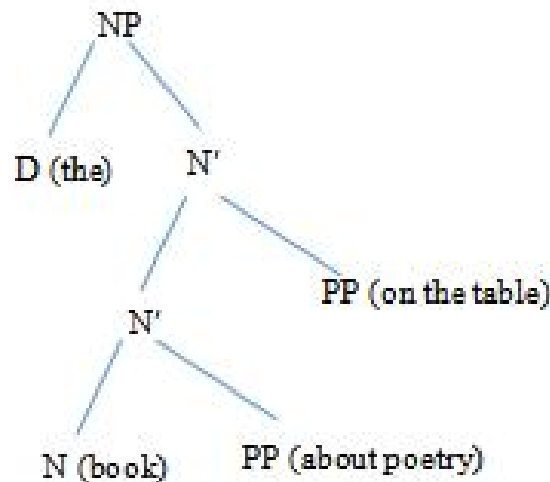
As an illustration, consider the following example.

The book about poetry on the table is yours.

D N PP1 PP2 V PRN

In (1), the NP "the book" consists of the head "book" and a determiner "the." According to rule 1(a), the NP "the book" has a head N' (book) and a D (the). In the tree diagram, the head "book" will branch off into the head "book" and optional PPs "about poetry (PP1) and "on the table (PP2). These PPs follow the head "book". The phrase-marker ¹representation for the stated rules will be as follow:

(i)



The study of NP structure in Pashto reveals some interesting facts that may or may not be compatible with English NP structure. The structure of NP will be described as 1 (a).

1 (a). NP → (PP) N (PP)

Consider (2)

د شاعر ټولټار په مېرمن باندې ستادې

PP1 N PP2 PRN V
Poetry about (the) book the table on

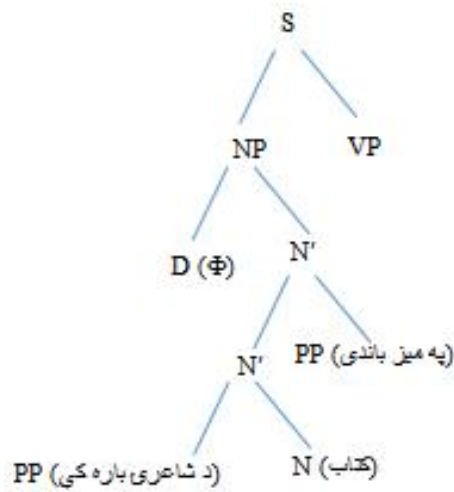
In (2), the PP1 " " is a pre-head dependent if we follow

¹ A term for a tree diagram described by Rodney Huddleston (1979, p. 37)

Huddleston’s (2012) terms about phrase structure rules while PP2 “ ” is a post-head dependent. As can be seen in (2), Pashto has postpositions and hence the head P follows the complement NP. In other words, PPs as dependents can follow or precede the head N. This analysis leads to a linguistic description that PSRs in Pashto assumes different syntactic configurations. Hence, 1(b) will take the following form in Pashto:

- 3a. NP ----- (Det) N’
 b. N’ ----- (PP) N’ (PP)

The phrase-marker representation for sentence (2) will be (ii).
 (ii)



The projection rule 3 (b), however, does not contravene English’s PSRs for NPs. English NPs also can take PP as post-head dependents as illustrated below.

4. The man of honour never betrays.

In (4) the PP “of honour” is the post-head dependent of the head N’ “man.”

Moreover, determiner as a functional category is optional in Pashto. As Baker & Chantrell, (2005) contend that a singular count noun as head must take a determiner, the same, however, does not hold true in Pashto. Consider the following examples.

5. I ate a/one/the/this/that mango.

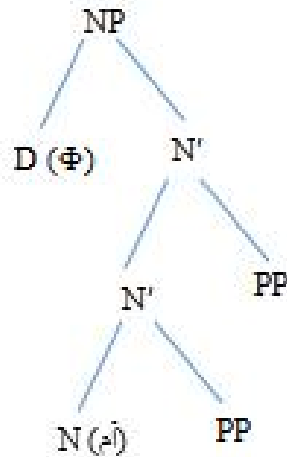
Sentence (5) shows that the use of a determiner with a singular count noun is obligatory. This restriction, however, does not apply in Pashto where a singular count noun can be bare determiner as illustrated below:

دخواه و آ م ما 6.

I mango ate.

This is notationally represented with the symbol (Φ) (pronounced as theta) and stands for null categories.

(iii)



Concerning 1 (c), where adjective phrase precedes the head N as in (6).

7. a big house

NP → a(D) big (AP) house (N)

Pashto follows the same paradigm as given in 10.

8. *يوټه كور*

A big house

So (1 c) will be written as follow:

9. N' ----- (AP) N

The inclusion of PP will, however, take the following structure:

10.

A big house the village in

D AP N D N P

11. NP → (AP) N' (PP)

(11) will assume the syntactic form (12) in English.

12. A big house in the village

D AP N P D

Hence, we can write the following rules for NPs.

13. NP → AP N' PP

As can be seen in (11) and (13), English and Pashto follow the same syntactic structures concerning NP structures. Both take APs as pre-head and PPs as post-head dependents. The difference, however, will be in the structure of PPs where English is head initial while Pashto is head final language.

Since the current study focuses on prepositions, the syntactic configuration of them in accordance with PSRs wants necessary description. PSRs recommends the following structure for prepositional phrases (PPs).

14. a. PP → P' NP

b. P' → P' NP

c. P' → P NP

The projection rule (14) will be written as (15) in Pashto:

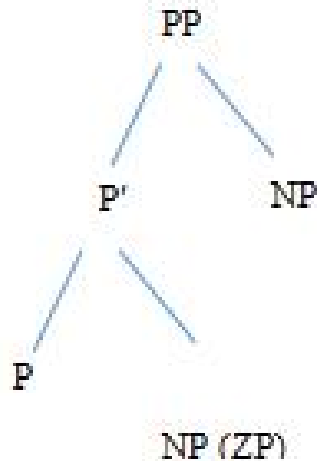
15. a. PP → NP P'

b. $P' \rightarrow NP P'$

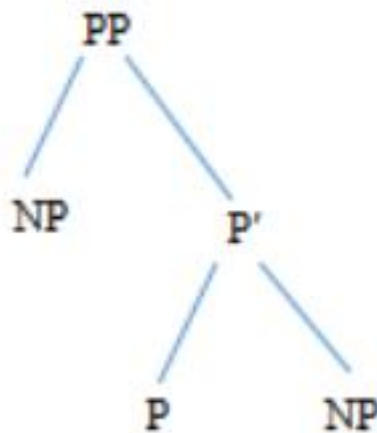
c. $P' \rightarrow NP P$

(15) denotes that the complement of a preposition in a PP precedes it in Pashto. This means that Pashto has postpositional phrases, unlike English which has prepositional phrases. The phrase-marker representations for English and Pashto are given below in figures (iv) and (v) respectively.

(iv)



(v)



Similarly, for VP the following projection rules are given in the PSRs.

(16) a. $VP \rightarrow V' (XP)$

b. $V' \rightarrow V' (XP)$

c. $V' \rightarrow V (XP)$

The schema in (16) illustrates that a VP consists of the head V and an optional complement XP. The inclusion of the complement is licensed by a V. The V takes one complement if it is monadic; two if it is dyadic and in case of triadic V, there are three complements. As an illustration, consider the following examples:

(i). He died.

In 16 (i), die as a predicate licenses one external complement "he." It, however, does not have any internal argument (XP). Any addition of XP to the V' "die" will render it ungrammatical. Consider the

following.

(ii). *He died her.

The unacceptability of 16 (ii) is accounted for the monadic nature of the predicate “die.”

The same phenomenon can be observed in Pashto language. Consider the following example.

(iii).

He died.

16 (iii) indicates that “die” is also monadic in Pashto. Like (ii) above, it cannot take any internal argument.

(iv). هغه هغه مړ شو.

He her died.

Verbs like “break, hit, beat, eat, kick” etc. are dyadic. These predicates license one external and one internal argument. In other words, the predicate “beat” must take an XP. Consider 16 (v).

16 (v). John beat Michael.

In (v) the head “beat” licenses XP “the window.” The omission of XP renders 16 (v) unacceptable.

(vi). *John beat.

The analysis of such predicates leads to the same conclusion in Pashto. Consider the following sentence.

(vii).

Ali Asad beat.

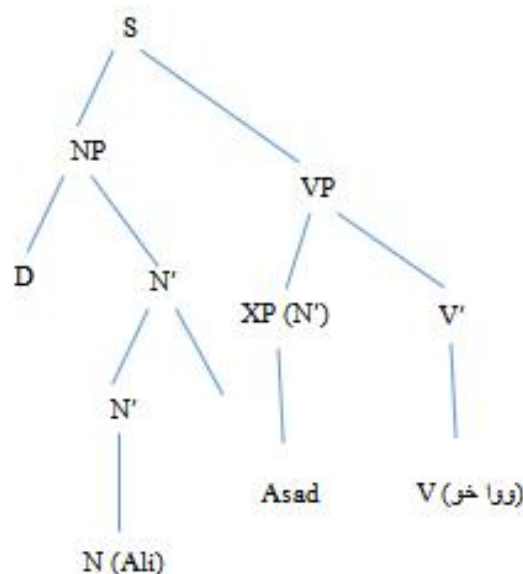
Pashto will follow the following pattern for VP.

(viii). VP → (XP) V'

V' → (XP) V'

V' → (XP) V

16 (viii) shows that the complement (XP) precedes the head V in Pashto. This parametric variation makes it different from English where the complement XP follows the head V as illustrated in example (v) above. The phrase-marker representation for (vi) will be vii (a).



Triadic predicates like “give, send, lend, sell, make, prepare” etc. take two XPs. consider the following examples.

(ix). John gave Mary a watch.

In 16(ix), the V “give” licenses two complements XP1 (Mary) and XP 2 (a watch) respectively. These XPs are obligatory and the omission of anyone of them makes the sentence ungrammatical.

(x). 2*John gave Mary.

(xi). *John gave a watch

16(xi) can be grammatical provided that it is realized as NP1 +PP structure as illustrated below.

16 (xi). John gave a watch to Mary.
 NP1 PP

The phonological realization of PP (generally referred to as oblique object (Huddleston, 2012) is omissible in given syntactic environment.

The triadic predicates exhibit the same syntactic configurations in Pashto. Consider the following examples.

(xii).

Ali Asad to watch gave.

16 (xii) shows that the V “ ” licenses two XPs in Pashto. These XPs are, however, not always NPs. One of complements is realized as oblique object “ ” It can be argued that Pashto marks one complement as oblique. This can also be seen when the complements are reordered as in 16 (xiii).

(xiii).

Ali watch Asad to give.

The analysis of PSRs leads to some interesting facts about Pashto language. It is to be noted down that Pashto is essentially complement first language. The study of PP and VP shows that Pashto takes the complement NP and XP as pre-head in a PP and VP respectively.

X' Module in Pashto.

As first suggested by Chomsky (1975), we might be able to eliminate the redundancy and increase our explanatory power by generalizing the phrase-structure rules. Put another way, Chomsky proposed that what you have as part of your cognitive system is a general format for phrase-structure rules which are independent of any syntactic category (N, A, V, etc.). So, instead of having rules like (1) and (2), we have the general schema in (17). This approach is known as X' -Theory (where X, Y and Z are just variables standing for any syntactic category):

- (17) a. $XP \rightarrow (\text{Spec}) X'$
 b. $X' \rightarrow X' (YP)$
 c. $X' \rightarrow X (ZP)$

The analysis of the configurational terms used in the X' module

² asterisks means ungrammaticality.

shows that that the variable X may represent any lexical category such as noun, verb, adjective or preposition. The head X of the phrase XP is notationally written as X'. The term specifier, according Redford et al (2007, p. 262) is a term of functional category, not a grammatical one. It always precedes the head word of the phrase. Consider the following example:

18. They will try to reduce taxes.

In (18), the pronominal "they" is in the specifier position. It precedes the head "will" whereas the VP "try to reduce taxes," follows the head "will" as a complement. Similarly. In the DP (determiner phrase) such as "such a pity," "such" as a specifier precedes the head "a" (a determiner) and the nominal "pity" acts as the complement of the determiner "a." The same relationship can be found in the PP "right inside it," where "right" as a specifier occupies the initial position followed by the head preposition "inside" and the pronominal "it" as a complement. To put it in another way, a specifier is the modifier of a phrase and takes initial position in the phrase.

The analysis of example (18) shows that Pashto also recognizes specifiers in the phrases. Consider 19.

19. She will read the book very carefully.

She will the book very carefully read.

In (19), the pronominal " " occupies the specifier position and precedes the head word " ". The phrase " " is an adverb phrase and it consists of a specifier " " and a head " "

" As evident from (19), " " as a specifier precedes the head " ". The VP " " is the complement of " " and it as a complement follows the head " ". This discussion leads to another tentative conclusion that Pashto follows a different head and a complement order in future oriented structures. Whereas canonically it is complement first language as illustrated in (vi), it follows complement last and head first order in future structures. In case of a DP like "such a pity" which takes the following form in Pashto as (20) has the specifier " " followed by the determiner " " and noun " "

20. Such a pity

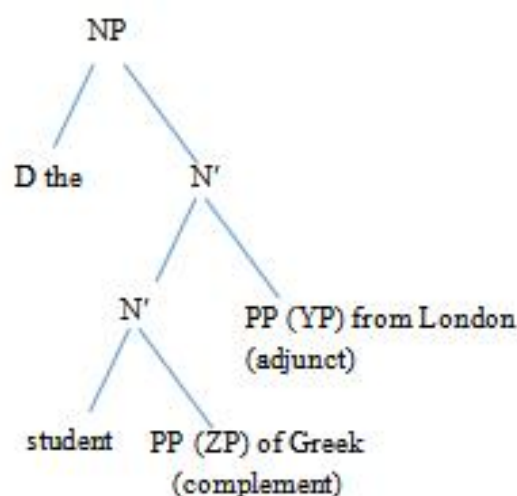
PP as a Complement

The X' schema written in 3 also denotes that a phrase XP must have a head X' which may further be split up in two branches comprising of the head X' and any optional adjunct YP. The schema stipulates that every phrase must ultimately end up with a head X and a complement which will be added as a sister to the head. A complement is always defined relative to a head. For example, in the following sentence the PP of Greek is the

complement of the N “student” because it is the sister to the head noun.

21. The student of Greek from London arrived.

(viii)



The complement is generally called the 'object' of the head, namely with predicates (verbs) and prepositions.

Sentence 21 takes 22 form in Pashto:

22.

Of Greek student London from arrived.

(22) shows that the complement PP1 “ ” precedes the head N student “ ” and PP2 “ ” as an adjunct follows the head. In the tree diagram, the complement “ ” will be sister to the head but it will be placed before the head in (viii). The adjunct PP2 will occupy the same position as in (viii).

Inside the XP

Let's take a look at some configurational terms relating to the structure of phrases now that we've introduced the X' -system. The most important part of the phrase is the head, which we've mentioned before in discussing the two-level system. Within the X'-schema, a phrase (XP) it's common to see the head X of an XP written as 'X"', which is read as 'X-zero (Poole, 2011). Complement is the other term that features as the constituent of the phrase XP.

The schematic representation in (3c) illustrates that the complement is recognized as optional sister “ZP” to the head “X”. A complement is always defined relative to a head. So in the NP that we drew the tree for in (4), the complement is the PP *of Greek*. That PP is the sister to the head N" of the NP. Conventionally, the complement can be described as the object of the verb or preposition.

It should, however, be recognized that all heads do not take obligatory complements. This optionality is realized with the parenthetical representation of ZP in the X'-schema rule in (3c). the licensing property of the predicate involved makes the complement

optional or obligatory. As illustration, consider the following two predicates “sleep” and “destroy”) in (23):

(23) a. “John slept.”

b. “John destroyed the town on Friday.”

The predicate “*slept*” does not license an obligatory ZP in (23a) while “destroyed” does so in 23 (b). This complement “the town” is at sister branch with the head “destroy” and is described as the direct object. Moreover, its omission from the sentence will lead to ungrammaticality as shown in (24).

(24) “*John destroyed.”

Another configurational distinction is realized between complements and adjuncts. The former are realized as mandatory constituents whereas the latter as optional categories in the X bar schema as given in the rule 3(b) above. Syntactically, adjuncts feature as sisters to the head X' and hence are the immediate constituents of X'. The PP “on Friday,” for instance, is a non-essential part of the sentence and provides some extra information about the time of destroying of the town.

Consider the following example.

25.

Ali Friday on town destroyed.

(25) shows that Pashto assigns a different syntactic position to adjunct in the sentence. It realizes adjuncts as medial instead of initial or final. The preposing of adjunct “on Friday” is a syntactic viability in English. It can take initial position as given below.

26. On Friday John destroyed a town.

However, syntactic restriction comes into effect when it is placed between the head and its complement XP. This, according to Interpolation Principle, is not possible.

27. *John destroyed on Friday a town.

The same restriction one can observe in Pashto. It does not admit adjunct in the final position.

28. (?) علی کلې تپاه کو د جمعه په ورځ

Initial position, however, is admissible.

29.

Consider (30)

(30). The book about poetry on the table

In (30), “the” is a determiner and is realized as the sister to an N' . It occupies the specifier position in the NP “the book about poetry” and hence is the immediate constituent of the head N' .

In Pashto, (30) takes the following form.

31.

(31) shows that adjuncts “ ” and “ ” take different syntactic positions. The first adjunct precedes the head while the second follows it. Moreover, the structure of these PPs is different from English as discussed in PSRs section of the study.

Conclusion

The study concludes that X bar module finds syntactic recognition in Pashto. Pashto is a complement-first and head-last language. It takes the complement NP to the right of the head P in PP structure. Since PPs are recursive, the head N bar can take PPs as daughters both to the right and left. Concerning the syntactic placement of APs, both languages are similar and assign head-last position to APs. However, Pashto recognizes PPs as NP +P, unlike English which is P+ NP. The schematic pattern for VP differs from English. Pashto takes the complement XP to the right of the head V. Likewise, in future orientation structures, Pashto diverges from general schema and assumes head-first and complement last paradigm. It also locates a specifier to the right of the phrase. It characteristically takes medial adjuncts. Adjuncts in initial positions, however, are also syntactic viability.

References

- Ali, A., Ali, S. S., & Ali, I. (2021). Semantic and pragmatic structures in Chomsky's binding theory. *University of Chitral Journal of Linguistics & Literature*, 5(2), 16-33.
- Ali, A., Ali, S. S., & Ullah, K. (2021). Chomsky's theta theory: Destroying the traditional ideals of the syntactic and semantic configurations of English sentential structure. *Pakistan Journal of Society Education and Language*, 7(2), 389-400.
- Ali, S. S., & Rahman, G. (2020). Language Attitude of Pashto Speakers towards English. *SJESR*, 3(3), 192-197.
- Arshad, H., Ali, S. S., & Gill, A. (2024). A comparative analysis of syntactic structures in English and Urdu: Insights through X-bar theory and the theta criterion. *Advance Social Science Archive Journal*, 2(4), 809-824.
- Baker, D & Chantrell, G. (Ed.). (2005). *Oxford learner's grammar: Grammar finder*. Oxford:
- Baker, M. C., & Chantrell, G. (2005). The syntax of noun phrases in Pashto. *Journal of South Asian Linguistics*, 1(1), 1-20.
- Chomsky, N. (1957). *Syntactic structures*. The Hague: Mouton.
- Chomsky, N. (1975). *Reflections on language*. New York: Pantheon Books.
- Chomsky, N. (1975). *The logical structure of linguistic theory*. Plenum Press.
- Huddleston, R. (1979). *An Introduction to English Transformational Syntax*. London: Longman Group Limited.
- Huddleston, R. D (2012). *Cambridge Grammar of English*. Cambridge: Cambridge University Press
- Huddleston, R. D. (2012). *English grammar: An outline*. Cambridge University Press.
- Introduction. (2nd ed.). Cambridge: Cambridge University Press.
- Ishtiaq, M., & Gill, A. (2024). Application of Chomsky's X-bar theory to Pakistani languages: A syntactic analysis of Urdu and Pashto with reference to English. *Dialogue Social Science Review (DSSR)*, 2(5), 550-560.

- Ishtiaq, M., Kamal, Z., & Iqbal, S. W. (2022). Parallel structural patterns in internal linguistic systems of English: An integrated approach. *Journal of Humanities, Social and Management Sciences (JHSMS)*, 3(1), 447-456.
Oxford University Press.
- Poole, G. (2011). *Syntactic Theory*. (2nd ed.). Houndsmill: Palgrave Macmillan.
- Radford, A., Atkinson, M., Britain, D., Clahsen, H., & Spencer, A. (2009). *Linguistics: An*
- Rahman, G., Khan, A. A., & Ali, S. S. (2020). Phonological reduction in Pashto. *Global Language Review*, 5(3), 1-5.
- Redford, M. A., & Randall, J. H. (2007). *Introduction to the syntax of English*. Cambridge University Press.