



An Analysis of Urdu Nominal Phrases based on the Theory of X-bar

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ABSTRACT

Syntax and Morphology determine the rules that govern the structure of any language. Sentences, phrases, and words are the hierarchies of language syntactic structures. This paper has discussed one of these constructions which is the phrase. It takes the Urdu nominal phrase for the analysis under the eye X bar theory of phrase by Chomsky (1970). The research has been carried out qualitatively with a descriptive-analytical approach. The theoretical framework for the study is “The X-bar schema and X-bar theory of phrase”, which aims to construct and govern the phrases of all-natural languages for computational grammar.

1. Introduction

Language is one of the sophisticated characterizing features of human beings, which has been studied and is being studied under a specific field of knowledge called linguistics. With race and the advancement of time, this study is becoming more advanced and more sophisticated, which aims to utilize language for much more than only communication. The advance of technology demands more innovations and exploration in linguistics too because technology cannot communicate without language. Syntactic advancement is in particular needed for computational purposes. Thus, this paper is analyzing the structure of Urdu nominal phrases based on the X-bar theory.

The phrase is an intermediate syntactic construction between sentence and word. Although it lacks subject-verb agreement, and does not convey a complete thought but it has a very valuable contribution to the construction of the sentence. Crystal (1992) has defined the phrase as “an element of structure typically containing more than one word but lacking the subject-predicate structure usually found in a clause. “While Finch (1999), in his definition of ‘phrase’, has stated, “a phrase is a syntactic unit which typically consists of more than one word and is intermediate between word and clause level in sentences.” In the syntax, hierarchy phrase is a larger syntactic unit than lexeme while smaller than sentence or clause.

There are different types of phrases e.g., Verb phrase, adverbial phrase, nominal phrase, or prepositional phrase etc. Each syntactically different linguistic system has its categorization and its structure. Noun phrases and verb phrases are the most important types of phrases; they constitute the base of an expanded sentence. This paper is centred on nominal phrases so it will be the subject of discussion here.

A noun phrase is a phrase that contains a noun as its head and the specifiers, modifiers, complements and adjuncts of the head which revolves around the head. Apart from the head of the phrase, other elements may be optional or obligatory.

The composition of a Noun Phrase that “consists of a noun and all the words and word groups that belong with the noun and cluster around it.” A Noun Phrase (NP) may consist of only a single noun or pronoun, or a cluster of words having noun as ahead, it may consist of two

words or a long complex cluster of wording such as article, an adjective, another noun or even a clause. (Quirk and Greenbaum, 1973: 17). A noun phrase is highly important in the syntax of any language.

This paper takes the Nominal phrase of the Urdu language into account. The Urdu language is the National language of Pakistan apart from it is one of the standard languages of the region. The language belongs to the Indo-European family of languages with the Arabic style of transcription from right to left. The Urdu language is very different from English in its syntax, transcription and grammar, for instance, the sentence structure for the English language is SVO while that for any Urdu sentence is SOV. So the nominal phrase of the Urdu language is different from the Nominal phrase of the English language. (Virk et.al ,2010)

The Nominal phrase (اسمی ترکیب , NP) of the Urdu language has a general structure of “MHM” where M is a modifier and H is the head or core word of the Phrase. The head will be a noun or pronoun generally while the modifiers can be adjectives or numerals. The modifiers are grouped into two categories i.e. pre-modifiers and post-modifiers. Pre-modifiers are those modifiers that come before the head of the phrase while post-modifiers are those which come after the head. “Surkh Phool” (red flower) is a nominal phrase with pre-modifier “Surkh” and the “Phool” as the head, and “hum sub” (We all) is a nominal phrase with post-modifier “Sub” and “Hum” as a head. (Butt M., 1995)

Noun phrases in Urdu may extend from a single word to a range of long complex phrasal structures consisting of Pronoun, adjective, noun, and quantifiers. Every noun in an Urdu noun phrase takes several semantic characteristics such as gender, plurality and respect features which help in the morphological construction of the phrase. These features need to agree with the head (noun) of the NP. All these features are to be kept in consideration while constructing a phrase.(Ali et.al, 2016)..

1.2 X-Bar Theory

The morphology and syntax always stand at the core of any linguistic system, because the structure of a language orients around these areas of linguistics. Many theories and ideologies have been developed to define the structure of a language. There are multiple hierarchies of linguistic constructions like a sentence, clause, phrase, word, and lexeme etc. The concern of this paper is phrase and Urdu nominal phrase specifically.

X-bar theory is one of the most prominent and central theories among the syntactic theories of phrase and its structure. The theory was presented by Noam Chomsky (1970) to present the structure of phrase based on the X-bar schema, which proposes that a phrase consists of a head (X) and is surrounded by other constituents either obligatory or not.

1.2.1 The theory embodies two main postulates:

Headedness Principle: Every phrase consists of a head as an obligatory part.

Binarity Principle: The phrase branches in two nodes.

According to the X-bar schema, a phrase (XP) consists of the following components.

- ❖ **Specifier:** it is the pre-modifier of the head (X) that modifies or specifies the meaning of the phrase. It may or may not be part of the phrase.
- ❖ **Head:** [obligatory] It occupies the core of a phrase. This is the presiding part of a phrase that determines its form, characteristics, and structure.
- ❖ **Complement:** it's a post-modifier argument that adds to the meaning of the head.
- ❖ **Adjunct:** it is an optional modifier for a head that comments on the head.

The lexeme which is placed in head place is denoted with X^0 sometimes it is known as Zero projection as well. When the head is combined with complement it makes a single x-bar (X^- or X') and the same process is repeated upon the addition of adjunct. A head combined with complement or adjunct is termed an intermediate projection. The intermediate projection is combined with a specifier and it constitutes a double bar X phrase which is termed as maximal projection. The double X bar phrase is denoted with X'' . (Kornasi & Pullum, 1990).

1.3 Need and Scope of the Study

This paper studies the nominal phrase of Urdu under the lenses of X-bar theory for its morpho-syntactic analysis. Various studies have been carried out on Urdu Phrase and noun phrases from different perspectives. This study is going to play a vital role in the establishment of universal language by adding to the literature of comparative linguistics.

Urdu is the national language of Pakistan and it's a standard language with rich vocabulary. The nominal phrase is a major part of the syntax of the language and this paper is considering that based on the X-bar theory of Chomsky to analyze its structure.

Thus, this paper is making a valuable addition to the existing repertoire of both Urdu and English Syntax and morphology. It will also help in developing computational linguistics for automatic internet-based translations by determining the structure of Urdu nominal phrases.

1.4 Research Questions

Q.1 The X-bar theory of phrase structure and properties is claimed to be a universal theory for machine translation, is this claim justified for Urdu nominal phrases too?

Q.2 Urdu and English languages are different with a high degree of linguistic gap, how much the Urdu nominal phrase is computable with X-bar theory assumptions?

1.5 Research Gap

Various studies have been carried out in order to analyze the Urdu noun phrase from different perspectives, such as Khalid et.al in their paper “the noun phrase: Formal and functional perspectives” describes both of the elements structure and importance of noun phrase in terms of syntax, (Sharhan & Al-Abedi, 2018). On the other extreme, Aasim Ali and his co-workers have analyzed the construction of Urdu Noun phrase under the shadow of computational grammar and machine translation in their article named “Study of Noun Phrase in Urdu” (Ali et.al, 2016), lastly, Stageberg has worked, brought and pointed the composition of a Noun Phrase (Stageberg, 1997). In this regard further detailed description is listed in the literature review. Some has investigated the contents of nominal phrase, other have tried to identify its exact structure. However the existing literature lacks any such work which has analysed the nominal phrase from the perspective of X-bar theory. The phrase structure in the light of X-bar theory is highly important for computational grammar. Therefore, this research intends to fill this gap.

1.6 Aim and Purpose of Present Study

This paper aims to analyze the structure of Urdu nominal phrases based on the X-bar theory of Phrase structure. The theory actually presents a framework for the phrase structure for computational purposes, in order to make the cross-translation process easy and establish a

universal language. The purpose of this study is to add its part to the progress of computational grammar and comparative translation.

2. Literature Review

This section briefing the existing relevant literature with X-bar theory and Urdu nominal phrases. A lot of works has been carried out on Urdu nominal phrase in Urdu literature and some works exist in English too, but here some of the most relevant works are extracted.

Syntax is a field of linguistics that deals with the structure of the linguistic structure of a language. It is the knowledge of the rules that govern the structure of a sentence, phrase or clause. It makes its student able to build and analyze linguistic constructions like a sentence. clause and phrase.

X bar theory is a central theory of English syntax that was proposed by the eminent linguist Noam Chomsky in 1970. The theory deals with the analysis of phrases and their properties. It discusses the constituents of phrase and their positions and projections. The theory is thoroughly included in Government binding theory and lexical functional grammar theory. The basic motif of the theory is to solve the problems of computational grammar and machine translations. (Chomsky, 1957)

“The X-bar theory of phrase structure” by Andras and Santa (Kornai & Pullum,1990). presents an analysis of X-bar theory. They have addressed the shortcomings and delimits of the theory. They have moulded the six conditions of x-bar theory i.e lexicality, uniformity, centrality, optionality, maximality and succession, and have given a very detailed insight into these conditions.

Khalid et.al (2018, p.549/ 556) in their paper “The Noun Phrase: Formal and Functional Perspectives” have discussed the structure of a noun phrase and its importance in the syntax of the language. They have revealed how the structure of a noun phrase extends from a single word to a complex long cluster of words, in what sequence these words are arranged and how their semantic denotation is employed by its structure (Sharhan & Al-Abedi, 2018).

Ali et.al (2016, p.1) have analyzed the construction of Urdu Noun phrase for computational grammar and machine translation in their article titled “Study of Noun Phrase in Urdu”. They have attempted to find out the exact rules which govern the phrase structure of the

Urdu language. They pinpointed the factors and features which determine the structure of the Nominal phrase of the Urdu language.

Stagaberg (1979:185) has pinpointed the composition of a Noun Phrase (NP) that “consists of a noun and all the words and word groups that belong with the noun and cluster around it.” A Noun Phrase (NP) may consist of only a single noun or pronoun, or a cluster of words having a noun as a head; it may consist of two words or a long complex cluster of wording such as an article, an adjective, another noun or even a clause (Stageberg, 1997).

3. Research Methodology

This study has adopted the qualitative descriptive research methodology. The data is also purely collected through the qualitative method, which is taken from different books, research articles mostly, websites and journals etc. The Urdu Nominal phrases have been taken from classic Urdu prose of an eminent Writer “Mirza Asadullah Khan”; “*Ghalib ka Khat Alauddin Alai k Nam* (Ghalib’s letter to Aalaodin Aalai)” which is published in the Urdu textbook of Class 10th by KPK textbook Publishers. The letters of Ghalib are considered a valuable asset of Urdu literature. His texts are loaded with figuratively sublime phrases use.

The NPS are selected from the text and then analyzed in the framework of X-bar theory to investigate its structure and order, based on the analysis the results and findings have been finalized.

3.1 Urdu Nominal Phrases and X-bar Theory; Analysis and Discussion

The sample nominal phrases are extracted from the text of “Ghlaib Letter to Aalaodin Alai” which is published in the 10th-class textbook published by Khyber-Pakhtunkhwa textbook Board Peshawar. Following are the selected Nominal phrases from the text of the letter,

اس نہال کے ، دو صورتیں ، قائدہء عام ، آٹھویں رجب ، دلی شہر ، تین برس ، ضعیف سا احتمال۔

Now the translation of these phrases is needed to be done in English for the sake of easement of understanding.

Urdu phrase/ English translation

اس نہال کے /of that plant

دو صورتیں / two forms/two ways

قائدہ عام /general rule

آٹھویں رجب / 8th Rajab(Islamic month)

دہلی شہر / city of Dehli

تین برس / three years

احتمال سا ضعیف /little probability or weak chance

Now let's analyze these phrases in the light of X- bar theory.

اس نہال کے /of that plant --- Here the word “اس” is a pre-modifier of “نہال” which is the head of the NP. Now if this phrase is fitted in the X-bar schema then the pre-modifier will be considered as a specifier and upon its combination with head X^o, it will be a double-bar X phrase.

دو صورتیں / two forms/two ways ---- the word “دو” is numeral adjective which is modifying the head “صورتیں”, here also the modifier comes before the head thus may be fitted in the place of specifier and will make a double Bar-X phrase. The same rule is applicable in the phrases; آٹھویں رجب / 8th Rajab (Islamic month) and تین برس / three years.

قائدہ عام /general rule ---- In this nominal phrase the head is “قائدہ” and it is modified by a post-modifier “عام” now this modifier may be placed in the place of complement and it will make a single bar X phrase which termed as an intermediate projection, however, this is only if we just literally place the components of the words in X bar schema otherwise the phrase is semantically having a maximal projection,

دہلی شہر / city of Dehli ---- this phrase is composed of “دہلی” as ahead and “شہر” as a complement which makes a single X-bar phrase.

احتمال سا ضعیف / little probability or weak chance ---- here the word “احتمال” is head and “ضعیف سا” is an adjective complement which comes before the head here and both will make a single bar X phrase.

4. Results and Findings

This paper took the nominal phrase of the Urdu language as its subject of discussion and analyzed it in the light of X-bar theory which was proposed by Noam Chomsky. The data was collected “Ghalib’s letter to Alauddin Alai” and then was analyzed in the light of X-bar theory. The analysis of the NP of the single selected Urdu text may be drawn into some findings and conclusions. The analysis shows that X-bar theory needs to be moulded to be employed in all languages generally and Urdu specifically.

The Urdu Nominal Phrase’s structure varies from that of the English Nominal phrase as there are many differences between Urdu and English Language; they have many morphological and syntactic differences. One thing important to note is that during the search there was no distinctive category for nominal phrase found in Urdu grammar as opposed to English grammar where NP is a very prominent category of the syntax, however, the NP constructions were found. Urdu Nominal phrases mostly constituted through the combination of Noun with adjectives or numerals. Thus, Urdu nominal phrase does not fit the same in X-bar schema but yet X-bar theory may be employed with some modifications. The X-bar theory must be flexible enough to be applied to the phrase of all natural languages in order to make process of comparative translation easy.

5. Conclusion

Noun phrase is a phrase which is headed by a noun and surrounded by other words. Noun phrase is an important construction in any language which describes the noun in an elaborative and descriptive way. This paper discussed the Urdu nominal phrase and analyzed it from the perspective of the X-bar theory by Noam Chomsky. It elaborated on the noun phrase and its concept and structure in the Urdu language and then summarized the X-bar theory. After reviewing the relevant literature, the Urdu Nominal phrases were analyzed in the light of X-bar theory for its structure to see if X-bar theory is applicable to it or not, and if yes then how its structure may be analyzed. For this purpose, a sample of noun phrase collection was gathered from “Ghalib’s letter to Alauddin Alai” and the selected text was scanned in the light of x-bar theory. The analysis resulted in some findings that the structure of the Urdu Nominal phrase is different from that of the English language, and the X-bar theory is not fully applicable to the structure of the Urdu nominal phrase for computational grammar purposes and comparative

translations. In order to facilitate the process of comparative translation, the X-bar theory must be flexible enough to be applied to phrases in all natural languages.

References

- Ali, A., Kamran, M., Siddiq, S., & Hussain, S. (2016). Study of Noun Phrase in Urdu. *Linguistics and Literature Review*, 2(2), 57-71.
- Association, University of Massachusetts. Richardson, John F. 1984. Let X = X. CLS 20: Papers from the twentieth regional meeting, ed. by Joseph Drogo, Veena Mishra, and David Testen, 321–333. Chicago, Illinois: Chicago Linguistic Society
- Butt, M. (1995). *The structure of complex predicates in Urdu*. Center for the Study of Language (CSLI).
- Crystal, D. (1992). *An Encyclopedic Dictionary of Language and Languages*. London: Penguin.
- Finch, G. (1999). *Linguistic Terms and Concepts*. Houndmills: Palgrave.
- Greenbaum, S. and Quirk, R. (1990). *A Student's Grammar of English Language*. Longman.
- Kornai, A., & Pullum, G. K. (1990). The X-bar theory of phrase structure. *Language*, 24-50.
- Reinhart, Tanya. 1974. Syntax and coreference. NELS 5: Papers from the fifth annual meeting, Northeastern Linguistic Society, 92–105. Amherst, MA: Graduate Linguistic Student
- Sharhan, K. S., & Al-Abedi, H. K. (2018). The Noun Phrase: Formal And Functional Perspectives. *International Journal of Language Academy*.
- Stageberg, N.C. (1997). *An Introductory English Grammar*. 3rd ed. New York: Holt, Rinehart and Winston.
- Urdu Text Book, class 9th. Khyber Pakhtunkhwa textbook board Peshawar.
- Virk, S. M., Humayoun, M., & Ranta, A. (2010, August). An open-source Urdu resource grammar. In *Proceedings of the Eighth Workshop on Asian Language Resources* (pp. 153-160).
- Yule, G. (1985). *The Study of Language*. 1st ed. Cambridge: Cambridge University Press.