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A COMPARATIVE STUDY OF VERB MORPHOLOGY IN URDU AND PUNJABI: AGREEMENT AND AUXILIARY SYSTEMS

Zarina Safdar[*1], Raza-E- Mustafa[2], Rida Zainab[3]

[1]*MPhil Scholar, Department of English, University of Gujrat*
[*2]*Assistant Professor, Department of English, University of Gujrat*
[3]*Lecturer, Department of English, Mukabbir University Gujrat*

[*1]zarinasafdar34@gmail.com, [2]razaemustafa@uog.edu.pk, [3]ridazainab@mukabbiruniversity.edu.pk

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Corresponding Author: *
Raza-E- Mustafa

Abstract
This study examines the verbal morphology of Urdu and Punjabi with a specific focus on agreement and auxiliary systems. The framework of Distributed Morphology (Halle & Marantz, 1993) is employed, which views morphological structures as a realization of abstract morphosyntactic features through post-syntactic operations. The purpose of the study is to identify the similarities and differences in how these features (gender, number, and tense) are morphologically expressed in the two languages. The study uses a dataset of 100 sentences, 50 from each language to represent agreement patterns and auxiliary constructions. The findings suggest that perfective verbs in Urdu agree with the object's gender and number and use separate auxiliary verbs, while Punjabi shows similar agreement but focuses more on number than gender, and uses fused or merged auxiliaries along with default masculine forms for non-human objects. The study highlights similar structures as well as language-specific differences in the verbal morphology of Urdu and Punjabi.

1. INTRODUCTION

In the subcontinent, Urdu and Punjabi are two prominent Indo-Aryan languages that display complex Verbal morphology comprises of rich agreement patterns and auxiliary constructions (Butt & Ahmed, 2011). Urdu, the national language of Pakistan and a standardized variety of Hindustani influenced by Persian and Arabic, serves as a lingua franca in urban and official domains. On the other hand, Punjabi functions as a vernacular language for over 70 million people. It is an Indo-Aryan language which has had very little influence from other dominant languages. Both Urdu and Punjabi languages exhibit a complex verbal morphology that is characterized by split ergativity and rich agreement patterns for gender, number, and person. This structural foundation is further defined by an auxiliary system that marks tense and modality, which permits these languages to identify structural arguments using morphological markers instead of rigid word order (Maroof & Zafar, 2023).

Verb agreement in these languages is important because of its sensitivity to transitivity, aspect and argument structure. In Urdu Perfective transitive construction, object agreement is displayed where the past participle is inflected for gender and number of the unmarked object, as in "Anjum ne Khat likh-aa hai" (Anjum wrote a letter), the subject is ergative, and the object *khat*(letter) is masculine nominative. The perfect participle *likh-aa* carries masculine singular agreement with the

object (Butt, 1995). Punjabi language shows a similar pattern but variation in number-based agreement patterns e.g. "*mundyan ne marya*"(boys hit) and defaults in non-human contexts (e.g., Makan, Ghar) (Arslan, Kanwal, Mehmood, & Haroon, 2023). Auxiliary system in both languages differentiates them further: in Urdu, the verb relies on the auxiliary *Honaa (to be)* in many constructions; on the other hand, Punjabi uses fused auxiliaries such as *sii, haa/ haoNaa* to express tense and aspect using concise forms.

The existing research comparing Urdu and Punjabi points out typological similarities such as the use of light verbs to make complex predicates, but pays little attention to the rules that are the underlying causes of these differences in agreement and auxiliary use. This gap is important because it effects our understanding how language change in contact setting and for NLP applications, where machine translation between Urdu and Punjabi still produces agreement errors. This study addresses this gap through a comparison of Urdu and Punjabi verbal morphology by focusing on agreement patterns and auxiliary systems. This study uses the framework of Distributed Morphology (Halle & Marantz, 1993), and verbal inflection is analyzed by decomposing syntactic structure into functional heads for instance: Voice, Aspect, and Tense. Using DM framework, this study analyses how verbal meanings are systematically mapped onto surface forms, including patterns of fusion and syncretism across languages.

2. Literature Review

A number of studies on the morphology of the Pakistani languages have been conducted (Mustafa & Mangrio, 2019; Mustafa, Anwar & Rasool, 2021). A few studies have been conducted on Urdu and Punjabi verbal morphology (Iqbal, Mangrio & Mustafa, 2021). This shows that both languages possess rich inflectional systems in which, instead of peripheral elements, auxiliaries and agreement are central to the clause structures (Mustafa, Anwar & Rasool, 2022). Puar's (1972) study of Punjabi finite verbal phrase analyzes how finite verb forms are morphologically structured and categorizes auxiliary verbs *ho* and *hee* as intrinsic components of verb systems rather than optional additions (Puar, 1972). The research on Punjabi verbs reveals similar findings but from a different angle. For instance, one study examines one hundred Punjabi verbs that are marked for gender, number, person, tense, aspect and modality (Kakzhanova, 2019); on the other hand, a recent study highlights that Punjabi light verbs are important for aspectual marking and complex predicate formation (Jamshaid & Tahir-Ul-Amin, 2025).

The research on Urdu language morphology examines agreement, case marking, and the position of auxiliaries. According to Rizvi and Hussain's (2005) study of Urdu-Hindi auxiliaries demonstrates that in verbal morphology, auxiliary elements agree with the subject, the object, or appear in default form depending on tense and transitivity. Similarly, another study analyzes Urdu split ergativity through structural case and agreement licensing which makes Urdu useful for examining how agreement is conditioned by clause structure instead of subject-based rule (Durrani, 2006). A recent study of multiple agreement systems in Urdu highlights that perfective clauses render ergative subjects inaccessible to agreement mechanisms, thus targeting accessible internal arguments and triggering object agreement instead of the subject agreement (Afzal & Haider, 2025). Collectively, these studies suggest that Urdu verbal morphology operates across several interconnected domains such as case, agreement, auxiliary use and argument accessibility.

Distributed Morphology is a framework that works well for integrating these findings, as it considers morphology to be syntax-driven and realized after syntactic operations. Research based on Distributed Morphology has also been conducted in South Asia, for instance, one study provides a detailed DM analysis of Hindi verbal morphology (Singh & Sarma, 2011). While the other study uses the Distributed Morphology framework to investigate the structure of inflected Urdu nominals (Nabi, Khan & Saleem, 2025). Both these studies demonstrate how, through the use of morphological operations, features are realized after syntax. The study of Arregi and Nevins

(2012) provides a broader DM analysis of auxiliaries in Basque highlights Vocabulary Insertion, Fission, and morphological processes in forming the auxiliary complex, highlighting how complex affixation can be decomposed into organized post-syntactic operations. This framework is useful for comparative study of Urdu- Punjabi verbal morphology, as it allows agreement morphology, auxiliary forms, and light verbs to be analyzed as different realizations of the same features rather than as isolated rules.

The comparative study of Urdu and Punjabi languages is still underdeveloped compared to the individual studies on each language. Studies on the Punjabi language tend to focus on finite verb morphology, paradigm richness, and light-verb structure; on the other hand, studies on the Urdu language focus more on split ergativity, object agreement and auxiliary behavior. This creates a clear gap for this study, a Distributed Morphology-based comparison of Urdu-Punjabi verbal morphology can investigate how person, gender and number features are expressed in both languages and show the auxiliary system. This study, by using Distributed Morphology, examines similarities and differences in the verbal morphology of both languages.

2.1 Research Objectives

The study aims

- To analyze verb agreement patterns in the Urdu and Punjabi languages.
- To examine auxiliary verb systems in both languages.
- To identify the similarities and differences in the verbal morphology of Urdu and Punjabi languages.

2.2 Research Questions

1. How are agreement features (person, number, and gender) realized in the verbal morphology of Urdu and Punjabi?
2. How is the auxiliary verb system structured and realized in Urdu and Punjabi?
3. What are the similarities and differences in the verbal morphological systems of Urdu and Punjabi?

3. Theoretical Framework

This study uses the theoretical framework of Distributed Morphology (Halle & Marantz, 1993), a model in generative grammar that explains the relationship between syntax and morphology. It proposes that morphological structures are not formed in separate lexical components; instead, they are derived from syntactic operations and are realized through post-syntactic processes. In accordance with this framework, words are composed of roots and morphosyntactic features such as gender, number, and aspect which later assigned phonological forms through the process of Vocabulary Insertion.

In accordance with this approach, verbal morphology emerges from the interaction between syntactic structure and the realization of morphosyntactic features. Verbs inflect for person, number, and gender because these agreement features are encoded in underlying syntactic structures. Similarly, tense and aspect are considered as functional features rather than inherent properties of the verb itself and are realized through auxiliary verbs and aspectual markers.

In order to compare the verbal morphology of Urdu and Punjabi, this framework works well because it facilitates a systematic analysis of different morphological realizations that are derived from similar morphosyntactic representations. Although both languages, Urdu and Punjabi, show agreement and auxiliary systems, they still differ in how these features are realized morphologically. This study, using the Distributed Morphology framework, examines how features like gender, number and tense are realized as different morphological forms in both Urdu and Punjabi languages. In addition, this framework allows the analysis of auxiliary verb system as functional elements that realize tense and aspect post-syntactically. This framework provides a unified analysis of how complex verb forms, such as progressive and perfective forms, are formed by combining main verbs and auxiliary verbs. Thus, Distributed Morphology works well for identifying both convergences and divergences in the verbal morphology of Urdu and Punjabi. This framework provides tools for systematic

comparison of verb morphology; this study examines how shared features undergo distinct Vocabulary Insertion to yield the surface forms of Urdu and Punjabi.

4. Methodology

4.1 Research Design

The qualitative research design is used for this study to analyze verb morphology in Urdu and Punjabi. This study focuses particularly on analyzing agreement and auxiliary systems in both languages. The study aims to explore morphological structures and patterns instead of measuring statistical frequency, which is why the qualitative approach is considered appropriate.

4.2 Data Collection

The data collected for this study consists of 100 sentences, 50 from each language (Urdu/ Punjabi). The dataset was selected to represent a range of grammatical constructions related to this study. It includes:

- Subject-Verb agreement (gender, number, person)
- Ergative constructions in perfective contexts
- Auxiliary verb usage (present, past, progressive, and perfective)

The data was collected from native speakers of both languages, standard grammatical sources, and research-constructed examples validated for grammatical accuracy. It ensures that data collected for the study reflects authentic and representative usage of both Urdu and Punjabi languages. The sentences are selected based on:

- They contain finite verb forms
- They clearly illustrate agreement features
- They include auxiliary constructions

The sentences are selected for analysis to ensure structural equivalence between both languages, enabling an accurate comparison.

4.3 Analytical Framework

This study uses the framework of Distributed Morphology for analysis. According to DM, verb forms are composed of abstract roots and morphosyntactic features such as gender, number, and tense, which, after syntactic operations, are realized through morphological markers. Each sentence in the dataset was analyzed by:

- Identifying the verb root
- Analyzing agreement features (gender, number, person)
- Examining the role and structure of auxiliary verbs
- Then, how these features are realized morphologically in both languages comparatively

4.4 Data Analysis Procedure

The data analysis is conducted in three stages. At first, each sentence is analyzed to identify relevant features such as agreement and auxiliary usage. Secondly, the Urdu and Punjabi data are compared to highlight similarities and differences in morphological patterns. Thirdly, by using Distributed Morphology, the findings are interpreted to understand how features are analyzed in each language.

4.5 Limitations

This study is limited to only the agreement and auxiliary systems of the two standard varieties of Urdu and Punjabi languages. It does not include dialectal variation or phonological analysis. This study also does not conduct a large-scale corpus-based statistical analysis to identify similarities and differences in the verbal morphology of both languages. Besides these limitations, this study uses a small dataset in order to conduct a more focused and detailed qualitative comparison, so that each sentence can be analyzed more precisely and accurately.

5. Data Analysis

This study conducts a comparative analysis of verb morphology in Urdu and Punjabi, particularly focusing on the agreement and auxiliary systems. The data is analyzed using the framework of Distributed Morphology, which proposes that verb forms are composed of abstract roots and morphosyntactic features that are realized by morphological markers. The dataset comprises 100 sentences, 50 from each language, to display agreement patterns and auxiliary constructions.

5.1 Agreement System

5.1.1 Subject-Verb Agreement

Subject-Verb agreement is defined as the grammatical relationship in which verb inflects in accordance with the person, number and gender of the subject. For example,

In Urdu:

Wo larka khata hai (That boy eats)

Wo larki khati hai (That girls eats)

Wo larky khaty hai (Those boys eat)

In Punjabi:

Ooh munda khandaa aa (That boy eats)

Ooh kuri khandi aa (That girls eats)

Ooh munday khandy nyein (Those boys eat)

In both the Urdu and Punjabi languages, verbs inflect according to the gender and number of the subject. Urdu uses suffixes such as "*ta, ti, ty*" while Punjabi uses "*ndaa, ndi, nd*". For marking gender and number. According to the DM, these distinctions represent the realization of abstract agreement, for instance [+ masculine], [+feminine], and [+ plural]. These features are added after the construction of the sentence structure by using language-specific morphological markers. The Punjabi language shows more phonologically regular and extended ending forms; on the other hand, Urdu displays relatively reduced and compact forms.

5.1.2 Gender Agreement

It refers to the marking of masculine and feminine marking on the verb based on the gender of the subject or object. Verb forms change to mark masculinity and femininity. For example,

In Urdu:

Ali ayaa (Ali came)

Ayesha aye (Ayesha came)

In Punjabi:

Ali ayaa (Ali came)

Ayesha ayee (Ayesha came)

Both Urdu and Punjabi languages mark gender through the suffixes *Masculine; ayaa, Feminine; aye.* This similarity between both languages highlights that they have a common morphological system for gender marking. Within the framework of DM, the feature (gender) is marked in both languages through the same vocabulary. The analysis highlights that there is no structural divergence in both languages in terms of gender marking.

5.1.3 Ergative Construction

It refers to the grammatical patterns in which the subject is marked with "*ny*" in certain contexts and verb agrees with the object instead of subject. For instance,

In Urdu

Ali ny kitab prhi (Ali read a book)

Ayesha ny khatt likha (Ayesha wrote a letter)

In Punjabi:

Ali ny kitab prhii (Ali read a book)

Ayesha ny khatt likhyaa (Ayesha wrote a letter)

Perfective constructions in both languages highlight ergative alignment. The subject takes the marker "ny" and the verb agrees with the object:

Kitab (book) feminine→ *prhii (read)*

Khatt (letter) masculine→ *likha/ likhyaa (wrote)*

From the perspective of Distributed Morphology, ergative case blocks agreement with the subject and permits the realization of object features on the verb during post-syntactic insertion. Punjabi forms are more explicit, while Urdu ending forms are shorter and compact.

5.2 Auxiliary System

5.2.1 Auxiliary Verbs (General)

Auxiliary verbs are defined as helping verbs which are used in combination with main verbs to express grammatical categories such as tense, aspect and modality. For example,

In Urdu

Wo khaa rha hai (He is eating)

In Punjabi:

Ooh khaa rhyaa ayy (He is eating)

Auxiliary verbs play a central role in the formation of verbal constructions in both languages. They carry tense and aspect features while the main verb carries lexical meaning. According to the DM framework, auxiliaries served as functional elements for the realization of abstract features such as [+tense] and [+aspect].

5.2.2 Present and Past Auxiliaries

These auxiliaries are used to mark tense; it shows whether an action occurs in the present or in the past. For example,

In Urdu:

Wo khaa rhaa hai (He is eating)

Wo khaa rhaa thaa (He was eating)

Wo soo rhaa hai (He is sleeping)

Wo soo rha thaa (He was sleeping)

In Punjabi:

Ooh khaa rhyaa aa (He is eating)

Ooh khaa rhyaa see (He was eating)

Ooh soo rhyaa aa (He is sleeping)

Ooh soo rhyaa see (He was sleeping)

Urdu uses the auxiliaries *Hai* for present and *thaa* for past; on the other hand, Punjabi uses *aa* and *see* for indicating the present and past. So, the tense is realized through auxiliaries in both languages.

5.2.3 Progressive Aspect

This aspect indicates an action that on a particular time is ongoing or in progress. For example;

In Urdu:

Wo khaa rhaa hai (He is eating)

Wo khaa rhii hai (She is eating)

In Punjabi:

Ooh khaa rhyaa aa (He is eating)

Ooh khaa rhi aa (She is eating)

The progressive aspect in both languages is formed by using the suffix *rha* in Urdu and *rhyaa* in Punjabi. The structure is formed by combing progressive marker and an auxiliary to the verb root, such as Verb root + Progressive marker+ Auxiliary. According to DM, the progressive feature is realized using *rha* in Urdu and rhyaa in Punjabi. Both languages have similar base form but Punjabi shows divergence due to the addition of "*ya*" as a morphological marker. In addition, the auxiliary verbs such as *hai* in Urdu and *aa* in Punjabi realize the present tense feature. Therefore, progressive construction involves a combination of multiple features such as Verb Root (lexical meaning), progressive (aspect) and tense (auxiliary). The differences arise due to language-specific vocabulary insertion in which the same abstract feature is realized by using different phonological forms.

5.2.4 Perfective Aspect

It expresses an action that has been completed. It indicates the completion of an action; both languages use different forms to mark this aspect. For example,

In Urdu:

Wo jaa chuka hai (He has gone)

Wo jaa chuki hai (She has gone)

In Punjabi:

Ooh jaa chukyaa aa (He has gone)

Ooh jaa chuki aa (She has gone)

The forms used for perfective constructions are distinct in both languages, such as Urdu uses *chuka* while Punjabi uses, in construction. Urdu uses *hai* as an auxiliary for ending forms while Punjabi adds *aa* as an auxiliary. These forms indicate an action that is completed. Both languages show divergence in the use of auxiliary verbs for perfective constructions. From the perspective of DM, both languages share a similar underlying structure but reflect divergences in the realization of phonological forms due to distinct vocabulary insertion rules.

5.2.5 Future Constructions

These constructions are used to indicate actions that will occur in the future, not in the present time. Both languages show differences in the realization of future markers. For example,

In Urdu:

Wo khaaye gaa (He will eat)

Wo khaaye gii (She will eat)

In Punjabi:

Ooh khaway gaa (He will eat)

Ooh khaway gii (She will eat)

In Urdu verbal morphology, future forms are constructed using a verb inflected form with *gaa* in contrast, Punjabi uses an additional element *way* before the final auxiliary. This indicates that Urdu and Punjabi show structural differences in the construction of future forms. In terms of DM, the future tense is represented as an abstract feature that is realized through auxiliary and inflectional morphology markers. In Urdu, the future aspect is

realized using the combination of verb stem (*khayee*) + auxiliary marker (*gaa*); on the other hand, Punjabi uses an additional morphological element (*way*) with the verb stem and auxiliary to realize this feature. It implies that Punjabi uses more expanded forms for morphological realization while Urdu encodes them in a more compact form.

Table 1. Morphological divergence in Urdu and Punjabi

Feature	Urdu	Punjabi
Agreement Markers	ta/ti	ndaa, ndii
Present Auxiliary	Hai	aa
Past Auxiliary	Thaa	see
Progressive marker	Rha	rhyaa
Perfective marker	Chukaa	chukyaa
Future marker	gaa/gii	wayga/ waygi

The analysis highlights that although both Urdu and Punjabi languages share a similar grammatical system, particularly agreement and auxiliary system, differences appear in the morphological realization of these features. According to the Distributed Morphology framework, it is demonstrated that both languages operate at similar abstract features, but differ in their surface realization. The differences between Urdu and Punjabi are in the realization of morphological expressions.

6. Findings and Discussions

This study, through comparative analysis of the verbal morphology of Urdu and Punjabi grounded in the Distributed morphology framework, reveals that both languages have similarities and differences in the agreement patterns and auxiliary systems. This study, by examining 100 sentences from both languages illustrates that both have similar morphosyntactic features such as gender, number, tense and aspect, but show differences in their morphological realizations. These findings reflect DM's central claim that abstract roots and morphosyntactic features are realized post-syntactically through language-specific Vocabulary insertion, which, despite shared syntactic structures, produces surface variations.

6.1 Agreement System

At first, the study reveals that subject-verb agreement in both languages, where the verb changes its form to show agreement with gender and number. In Urdu, the suffixes such as "*ta*, *ti* for feminine and masculine. Punjabi shows a similar agreement pattern but uses more extended and fused suffixes such as *ndaa*, *ndi*. According to DM, the abstract features like [+masculine], [+feminine] and [+ plural] are realized post-syntactically in both languages. In simple past contexts, the gender agreement is realized similarly in both languages, for instance, *ayaa*, *aye*. This convergence suggests a shared Indo-Aryan vocabulary for gender features with no structural divergence. This convergence supports a claim in DM that shared feature bundles can receive similar post-syntactic realization across both languages when vocabulary items overlap.

Ergative alignment is the shared feature of both languages in perfective transitive constructions, where the subject is marked with *ny* and the verb agrees with the gender and number of the object. For example; *Ali ny kitab prhii*, *Ayesha ny khatt likhyaa*. According to DM, the ergative case on the subject blocks subject agreement and derives object agreement on the surface through later insertion.

6.2 Auxiliary System

Auxiliaries are functional elements that realize tense and aspect features, and clearly highlight convergences and divergences in both languages. For the present tense, Urdu uses *hai* and Punjabi uses *aa*, while for the past tense *thaa* (Urdu) and *see* (Punjabi). For instance;

Progressive aspect employs a near-identical structure as verb root + *rha/rhyaa* + auxiliary, which indicates ongoing action via a shared aspectual marker. Ooh soo *rhyaa aa, Ooh* soo *rhyaa see*. The perfective aspect is different across both languages; Urdu uses *chuka, chuki* plus auxiliary. On the other hand, Punjabi uses *chukya/ chuka aa, chuki* aa for perfective aspect. The future tense is also marked differently; Urdu uses *gaa*, *gii*, while Punjabi uses extended forms *way ga*. These differences do not arise from grammatical rules. The basic features like perfective and future are the same, the differences lie in how each language realizes these features, which is called language-specific Vocabulary Insertion according to the Distributed Morphology.

The findings confirm that Urdu and Punjabi share a common syntactic background but show divergences in the morphological realizations. Both languages share features like gender and ergativity realized through identical or similar forms, which reflects their common Indo-Aryan origin. Divergences appear in both languages, such as suffixes *ndaa* (Punjabi) vs *taa* (Urdu) indicates post-syntactic operation of distributed morphology. In DM, grammar is the same across languages, but rules apply after syntactic operations decide the final form, mechanisms like word order, sound rules and impoverishment produce language-specific outputs. Punjabi forms are more expanded and fused, while Urdu forms are reduced due to the possible influence of the Persian language.

7. Conclusion

This study conducts a comparative analysis of Urdu and Punjabi verbal morphology using the Distributed Morphology framework, particularly focusing on agreement and auxiliary systems. The findings reveal that both languages share a common syntactic architecture, characterized by abstract morphosyntactic features such as gender, number, tense, and aspect. These features are realized through language-specific morphological forms and create some similarities, such as the same gender endings *ayaa*, *ayi* in the past tense and ergative alignment. The findings also reveal that there are differences in Urdu and Punjabi, for instance, extended forms in Punjabi like *ndaa* as compared to compact forms in Urdu like *ta*, similarly in perfective forms such as *chukya* (Punjabi) and *chuka* (Urdu). The study demonstrates that both languages share similar morphosyntactic features, which are realized differently based on language-specific morphological forms, reflecting the core assumption of DM. The divergences can be explained through vocabulary insertion, where identical abstract features are assigned distinct phonological forms in each language. This study contributes to the field of comparative linguistics by providing a systematic analysis of Urdu and Punjabi verb morphology. It reveals both similarities in structural patterns and language-specific variations. It illustrates how related languages can be distinct in their morphological features, maintaining identical grammatical system.

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