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Phonological Adaptation of English Loanwords in Urdu: A Natural Phonology Approach

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ABSTRACT

This study examines the phonological adaptation of the English loanwords into Urdu. The data were drawn from the sources of routine conversational contexts. Employing David Stampe's natural phonology theoretical framework, the study reveals how Urdu speakers systematically modify the English loanwords to get them aligned with the indigenous phonotactic constraints and linguistic conventions. The major adaptation mechanisms identified include syllabic restructuring, vowel insertion, sound elimination, phonemic assimilation, and substitution processes. The results demonstrate that speakers indigenize English phonemes and syllables, and insert vowels in certain contexts.

Key Words: phonological adaptation, loanwords, natural phonology, Urdu linguistics, language contact

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1. Introduction

Urdu demonstrates extensive lexical borrowing throughout its historical development, with significant contributions from Arabic, Persian, and contemporary English sources (Iqbal & Majeed, 2015). This multilingual contact has resulted in complex phonological adaptations that reflect systematic processes governing the integration of foreign lexical items into the host language's sound system. The incorporation of borrowed elements into Urdu follows established phonological principles, including assimilation, epenthesis, and deletion processes, which facilitate the integration of foreign phonological features within the constraints of the recipient language's phonemic inventory and phonotactic rules (Paradis & LaCharité, 1997). These adaptations often involve modifications to approximate foreign sounds using the closest available phonological equivalents in Urdu, particularly evident in the treatment of English loanwords (Peperkamp & Dupoux, 2003).

This study employs Stampe's Natural Phonology framework, which posits that phonological processes are grounded in natural tendencies that reflect physiological and cognitive constraints on speech production (Stampe, 1979; Donegan & Stampe, 1979). The Natural Phonology approach provides a comprehensive theoretical foundation for understanding how Urdu speakers nativize foreign lexical items through processes that align with the language's inherent phonological preferences and structural limitations. Contemporary research indicates that loanword integration in Urdu involves structural modifications rather than complete phonological replacement, with borrowed elements gradually becoming assimilated through specific prosodic and phonetic changes (Hussain, 2004). These adaptations reveal systematic preferences for particular syllable structures and consonant clusters that conform to Urdu's phonotactic constraints (Kenstowicz & Suchato, 2006). Such patterns demonstrate the dynamic nature of phonological systems and their capacity to accommodate foreign elements while maintaining structural integrity (Hyman, 1970).

The present investigation extends previous research on loanword phonology by examining the mechanisms through which foreign phonological features are modified to align with Urdu's systematic preferences (Yavas, 2009; Kang, 2011). Through qualitative analysis of phonological processes, this study contributes to our understanding of linguistic borrowing dynamics and their relationship to Urdu's broader linguistic, social, and cultural contexts, thereby illuminating the complex interplay between language contact and phonological change.

1.1. Background to the Study

Loanwords constitute a fundamental component of language development, serving to expand linguistic expression and facilitate vocabulary enrichment (Iqbal & Majeed, 2015). Urdu, as a South Asian language, has experienced substantial lexical influence from Arabic, Persian, and contemporary English sources, reflecting complex historical and cultural relationships that demonstrate how languages evolve over time. The integration of foreign lexical items into Urdu necessitates systematic phonological modifications to conform to the language's inherent phonetic and phonological constraints, a process that simultaneously reveals both the language's adaptive capacity and its structural limitations (Kang, 2011).

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The phonological adaptation of loanwords represents a critical aspect of language contact phenomena that requires comprehensive linguistic analysis (Paradis & LaCharité, 1997). This adaptation process involves systematic alterations to foreign syllable structures, sound substitutions, and occasional phoneme deletions to facilitate comprehension among native speakers (Peperkamp & Dupoux, 2003). These modifications typically follow predictable patterns that reflect speakers' unconscious efforts to maintain conformity with Urdu's phonological system rather than deliberate linguistic planning.

David Stampe's Natural Phonology framework provides a theoretical foundation for understanding these phonological transformations. According to Stampe (1979), phonological processes are innately motivated and emerge from speakers' natural phonetic preferences, which are both functional and systematic. This theoretical perspective suggests that phonological changes are governed by pragmatic considerations rather than random variation (Donegan & Stampe, 1979). The Natural Phonology approach proves particularly valuable for analyzing English loanwords in Urdu, as it explicates the underlying mechanisms driving phonological assimilation, deletion, and insertion processes based on target language constraints and articulatory ease (Yavas, 2009).

Contemporary linguistic research examines the morphophonemic and phonological adaptations that enable English loanwords to achieve viability within Urdu's linguistic system (Kenstowicz & Suchato, 2006). This phenomenon exemplifies globalization's impact on domestic languages, were evolving communicative competencies and external influences shape linguistic development. Extended language contact introduces foreign phonological elements that persistently influence the recipient language's sound system, fostering innovative tendencies within Urdu's phonological framework, particularly through the incorporation of novel syllable patterns and sound sequences (Hyman, 1970).

The investigation of loanword phonological adaptation encompasses both theoretical linguistic premises and empirical assessments of external linguistic influences on language structure. Such analytical patterns facilitate understanding of Urdu's hierarchical phonetic organization and provide insights into the systematic mapping of foreign elements within the language's structural hierarchy (Paradis & LaCharité, 1997). Furthermore, this research addresses broader questions of linguistic preservation and cultural values, examining how Urdu navigates the tension between linguistic stability and adaptive change over time (Peperkamp & Dupoux, 2003).

The central challenge in loanword assimilation lies in achieving phonological conformity while preserving lexical functionality within the target language system. This assimilation process extends beyond purely phonological considerations to encompass broader sociolinguistic dimensions, as speakers negotiate linguistic identity and cultural autonomy through their adaptive strategies. The present investigation conceptualizes phonological adaptation as a specialized subset of broader linguistic adaptation processes, wherein speakers systematically modify borrowed lexical items to achieve phonological integration while maintaining phonemic integrity and communicative effectiveness (Stampe, 1979).

1.2. Research Objectives

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- To examine phonological processes involved in adopting English loanwords into Urdu.
- To assess the impact of phonological adaptations of English loanwords on Urdu's phonological structure.

1.3. Research Questions

- What specific phonological processes are employed in the adaptation of English loanwords into Urdu?
- How do the phonological adaptations of loanwords influence the phonological rules and patterns in Urdu?

1.4. Rationale of the Study

The systematic investigation of loanword phonological adaptation represents a critical area of linguistic inquiry, particularly as languages undergo rapid transformation due to globalization and enhanced intercultural communication. While extensive research has examined phonological adaptation processes in languages such as Thai and French (Peperkamp & Kostic, 2004), Urdu remains significantly under examined despite its complex multilingual environment and substantial English borrowing patterns. Historical evidence demonstrates that Urdu has consistently integrated foreign linguistic elements through systematic phonetic modifications governed by native language constraints while preserving its grammatical framework (Kang, 2011; Yuan Boshi Zhu, 2019). These adaptation processes, theoretically grounded in David Stampe's Natural Phonology Theory, involve phonemic substitution, insertion, and deletion mechanisms that achieve phonological conformity when foreign phonological systems encounter recipient language constraints (Stampe, 1979; Kenstowicz & Suchato, 2006).

This study addresses the critical gap in understanding how Pakistani Urdu speakers adapt English borrowings, particularly in urban and professional domains where English prevalence necessitates systematic phonetic modifications to accommodate sounds absent from traditional Urdu phonemic inventory (Hussain, 2004). The research extends beyond purely linguistic considerations to examine the sociocultural dimensions of phonological adaptation, recognizing that language functions as an integral component of speakers' social identity and cultural heritage (Hyman, 1970). By analyzing substitution and insertion mechanisms governing English borrowings in Urdu phonology, this investigation contributes to enhanced understanding of language contact phenomena in contemporary multilingual environments, providing crucial insights into how social factors including identity and power relationships influence phonological adaptation patterns in diglossic contexts where complex arrangements emerge from sustained language contact (Paradis & LaCharité, 1997).

2. Literature Review

The study of phonological processes underlying loanword adaptation is central to understanding both phonological theory and broader linguistic evolution (Winford, 2003). Loanword adaptation occurs when words from a donor language undergo modifications to fit the phonological norms of a recipient language, influenced by prosodic features, syllable structure, and sound inventories (Peperkamp & Dupoux, 2003). This process highlights systematic language interaction and demonstrates how cultural and linguistic factors shape borrowing (Trubetzkoy, 1939). Loanwords function as linguistic markers of cross-cultural communication, often emerging

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through trade, colonization, or globalization, and reflect social, political, or economic exchange (Haugen, 1950). The increasing influence of English as a global lingua franca has significantly contributed to the introduction of English words into languages like Urdu, representing not only linguistic borrowing but also sociocultural transformation (Lippi-Green, 2012). Such borrowings demonstrate that linguistic contact is both a phonological and sociolinguistic process, shaped by culture, prestige, and identity (Gumperz & Hymes, 1972).

Stampe's (1979) Natural Phonology provides a theoretical framework for analyzing loanword adaptation, explaining that phonological processes such as assimilation, dissimilation, and deletion arise naturally to simplify articulation. Natural Phonology views phonology as shaped by physiological and perceptual constraints, rather than as arbitrary rules (Schane, 1984). This framework illustrates how loanwords undergo systematic adaptation, for instance through changes in syllable structure or substitution of unavailable sounds, ensuring conformity with the recipient language's phonotactic rules (Mayer, 1981). Sociolinguistic factors strongly influence how loanwords are adapted, with prestige and communicative necessity playing key roles (Poplack, 1980). English borrowings in Urdu, for example, reflect the high status of English as a medium of modern communication, which often encourages minimal phonetic modification in formal domains (Romaine, 1995).

Speakers' perceptions of prestige languages such as English also reduce the extent of modification, as maintaining the donor form is associated with social status (Milroy & Milroy, 1999). Loanword adaptation also involves phonotactic restructuring, such as vowel insertion to resolve consonant clusters or substitution of sounds absent from the borrowing language's inventory (Clyne, 1991). For instance, Urdu speakers frequently employ epenthesis to accommodate English clusters, aligning borrowings with Urdu's open syllable structure (Gussmann, 2007). These modifications are shaped by sociocultural factors such as identity, prestige, and professional contexts, which determine the extent of phonological assimilation (Bakker, 1997). The incorporation of English terms in Urdu reflects Pakistan's socioeconomic changes and integration into global discourse (Schiffman, 1997).

Adaptation processes such as substitution, deletion, and epenthesis are the most common phonological strategies employed in Urdu (Kenstowicz & Suchato, 2006). Substitution replaces foreign sounds with phonetically similar native ones, such as Urdu's substitution of /v/ with /w/, while deletion simplifies clusters by removing difficult consonants (Kenstowicz & Suchato, 2006). Epenthesis resolves complex structures through vowel insertion, which allows borrowed words to conform to Urdu phonotactics (Peperkamp & Dupoux, 2003). These processes demonstrate systematic, ensuring that borrowed forms are both pronounceable and recognizable to native speakers (Peperkamp & Dupoux, 2003).

The adoption of English loanwords also represents cultural identity and modernization, as they often symbolize progress and global participation (Iqbal & Majeed, 2015). However, this also raises concerns of linguistic purism in Urdu, as increasing reliance on English threatens to overshadow its traditional structures (Kang, 2011). Despite this tension, English borrowings continue to spread in domains such as academia, business, and technology, reinforcing the dynamic and evolving nature of Urdu (Kang, 2011).

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3. Methodology

A descriptive and analytical approach is adopted to identify processes such as assimilation, deletion, substitution, and epenthesis (Creswell, 2014). Data are drawn from two sources: a corpus of contemporary Urdu texts—including novels, newspapers, websites, and dictionaries—to capture current phonological patterns (McEnery & Hardie, 2012), and secondary literature to provide comparative and theoretical perspectives (Tagliamonte, 2012). The analysis focuses on how phonological processes operate individually and interactively within Urdu loanword adaptation (Miles, Huberman, & Saldaña, 2014). The theoretical framework is Stampe's (1979) Natural Phonology, which explains loanword adaptation as a product of universal phonological processes shaped by articulatory and perceptual constraints. This framework clarifies how English loanwords are systematically reshaped to align with Urdu's phonological system (Stampe, 1979).

3.1. Research Design

This study adopts an interpretive research design, grounded in the paradigm that emphasizes understanding meanings and experiences within social and linguistic contexts. Drawing on qualitative methodology, it examines the phonological processes involved in the adaptation of English loanwords into Urdu.

3.2. Sampling

This study employs purposive sampling to select data most relevant to its objectives. Loanwords showing significant phonological changes and frequent use in contemporary Urdu are selected, ensuring both relevance and representativeness. The data sources include written texts such as books, dictionaries, newspapers, novels, and online materials, alongside previous research studies to provide comparative insights. A total of 199 English loanwords are selected, allowing for a detailed and comprehensive analysis of the phonological processes involved in their adaptation into Urdu.

No.	English Word	Urdu Transliteration
1	Slot.	سلاٹ
2	Lorry.	لاری
3	Top	ٹاپ
4	Copy	کاپی.
5	Call.	کال
6	Uniform.	یونیفارم
7	Talk	ٹاک
8	Chalk	چاک.
9	Constable.	کانسٹیبل
10	Speaker.	اسپیکر
11	School.	اسکول
12	Street.	اسٹریٹ
13	Spot	سپاٹ
14	Tyre.	ٹائر
15	Fire.	فائر
16	Tiger	ٹائگر.

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17	Cloth.	کلاتھ

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3.3. Theoretical Framework

The framework of natural phonology, as proposed by David Stampe in 1979, presents a promising theoretical approach for understanding phonological adaptation processes in language contact situations, particularly regarding loanword incorporation (Stampe, 1979). Natural phonology suggests that phonological processes are universal principles natural to all human languages (Stampe, 1979). These phonological processes arise from the interplay between human production physiological limits and auditory perception, combined with specific language forms (Donegan & Stampe, 1979). It describes a speech ability that people use to accommodate their language's restrictiveness. Similar to natural phonology, these principles demonstrate universality and generally encompass consistent behavior present across all languages (Hyman, 1975).

Stampe (1979) emphasized that phonological processes truly give language behavior its human characteristics. These processes are believed to be part of an innate adaptation mechanism that speakers employ when encountering foreign sounds or sound sequences, such as those found in loanwords (Paradis & LaCharité, 1997). When a speaker encounters a phrase from another language, they often adapt new sounds or structures to better fit their own phonological system (Kenstowicz, 2005). The Urdu language exemplifies this phenomenon, as speakers frequently phonetically alter English loanwords through nasalization, voicing changes, or vowel epenthesis (Hussain, 2011). This allows loanwords to take on forms that are easier for speakers to articulate and perceive while adhering to phonological patterns that define that language (Paradis & LaCharité, 1997; Yip, 2002).

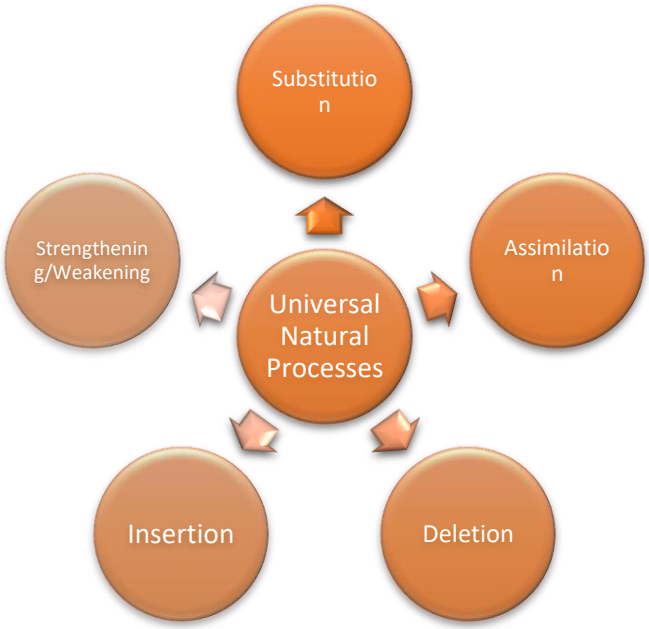

Figure 1. Natural Phonology Theory (Stampe, 1979)

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4. Data Analysis

The assessment and analysis of phonological processes involved in the adaptation of loanwords requires a comprehensive evaluation that predominantly employs qualitative data analysis. This analysis foregrounds the various alterations that are frequently observed during the integration of foreign lexicon into a language, specifically focusing on processes such as assimilation, deletion, epenthesis, substitution, and loanword modification. Each of these fundamental processes is examined not only in isolation but also in the context of how they interact with one another.

Table 1

Phonological Adaptation Strategies for English Loanwords into Urdu

Adaptation Strategy	Description	Example
Substitution	Instead of using a non-native English sound, the most phonetically equivalent phoneme from Urdu's inventory is employed.	/θ/ in *theatre* becomes /tʰ/ in Urdu.
Deletion	Certain English sounds, particularly word-final consonant clusters, are removed due to their incompatibility with Urdu phonotactic norms.	The final cluster in *text* may be reduced or simplified.
Epenthesis	Including a new vowel or consonant to improve pronunciation and adhere to the syllable structure of Urdu.	*School* becomes /ɪskuːl/, inserting /ɪ/ at the beginning.
Syllable Structure Changes	Loanwords often transform monosyllabic English words into multisyllabic ones by restructuring their syllables to follow Urdu's phonological rules.	English monosyllables like *club* may become multisyllabic.

4.1. Phonological Adaptation Processes

In the examination of loanword adaptation, particularly with respect to the integration of English lexical items into Urdu, researchers have identified several significant phonological adaptation processes that frequently come into play, including substitution, insertion, deletion and epenthesis.

Table 2

Loanwords with Substitution of / ɒ / by / a /

Urdu Loanword	Urdu Phonetic Transcription
ڈاکٹر	/ˈdaːktʌr/
جاب	/dʒaːb/
راڈ	/raːd/
لاک	/laːk/
شاک	/ʃaːk/
ماک	/maːk/
شاپ	/ʃaːp/
کامیڈی	/ˈkaːmɪdi/
ہاکی	/ˈhaːki/
پالیسی	/ˈpaːlɪsi/
راکٹ	/ˈraːkɪt/

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This analysis examines the phonological adaptation of English loanwords in Urdu, emphasizing the common substitution of the English vowel **/ɒ/** with Urdu **/a/** or **/a**ː**/.** Such substitutions generally occur without substantial phonemic changes or deletions, maintaining the original syllabic structure. Occasionally, epenthetic vowels like **/i/** or **/ʌ/** are introduced to meet Urdu phonotactic constraints, particularly for initial consonant clusters or word endings. Despite these changes, the original structure and meaning of the English words remain largely preserved, indicating a systematic yet minimal modification that aligns borrowed terms with native Urdu phonology.

Table 3

Loanwords with Substitution of /ɔː/ by /a/

English Word	Urdu Phonological Transcription
Fall	/faːl/
Short	/ʃaːrt/
Tall	/taːl/
Cloth	/klaːʈ^{h}/
Slot	/salaːt/
Call	/kaːl/
Ball	/baːl/
Mall	/maːl/

This analysis reveals a consistent phonological pattern in the adaptation of English loanwords into Urdu, particularly the replacement of the English long vowel **/ɔ**ː/ with the Urdu vowel /aː/. In words such as **fall**, **short**, **tall**, **cloth**, and **mall**, the data show a systematic substitution where the back mid-rounded vowel **/ɔ**ː/, absent in Urdu, is replaced by the phonetically suitable long vowel **/a**ː/. This vowel substitution occurs without substantial alterations to the original syllable structure, maintaining the recognizably of the borrowed terms while aligning with Urdu phonological norms.

Table 4

Loanwords by insertion of the /ɪ/ in the initial syllable

English Word	English Phonological Transcription	Urdu Phonological Transcription
Station	/ˈsteɪ.ʃən/	/ɪsˈʈeː.ʃən/
Sports	/spɔːrts/	/ɪsˈpoːrʈs/
Stop	/stɒp/	/ɪsˈʈɔp/
Student	/ˈstjuː.dənt/	/ɪsˈʈjuː.dənt/
Style	/staɪl/	/ɪsˈʈaɪl/
Status	/ˈsteɪ.təs/	/ɪsˈʈeɪ.ʈəs/
Start-up	/ˈstɑːrt.ʌp/	/ɪsˈʈaːrʈ.ʌp/
Structure	/ˈstrʌk.tʃər/	/ɪsˈʈrʌk.tʃər/
Strategy	/ˈstræt.ə.dʒi/	/ɪsˈʈræʈ.ə.dʒi/
Studio	/ˈstjuː.di.oʊ/	/ɪsˈʈjuː.di.o/
Store	/stɔːr/	/ɪsˈʈoːr/

This analysis underscores a significant phonological adaptation strategy observed in Urdu loanwords derived from English, specifically the addition of the epenthetic vowel /ɪ/ at the forefront of words that commence with intricate consonant clusters, notably those initiating with

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/st/. The phonotactic regulations of Urdu typically prohibit consonant clusters at the beginning of words; consequently, to address this issue, an initial /ɪ/ is introduced. This insertion enhances pronunciation and aligns the borrowed terms with the phonological conventions of the Urdu language. For instance, the words **station**, **stop**, **student**, and **structure** are transformed into /ɪsˈʈeːʃən/, /ɪsˈʈɔp/, /ɪsˈʧuː.dənt/, and /ɪsˈʈrʌk.ʧər/, respectively. This methodology guarantees that the English lexical items maintain phonetic compatibility with the sound system of Urdu while largely preserving the syllabic and segmental characteristics of the original terms.

Table 5

Change of diphthong /aɪ/ into /æ /

English Word	Urdu Loanword	English Phonetic Transcription	Urdu Phonetic Transcription
Tiger	ٹائگر	/taɪ.gər/	/tæ.gər/
Dialogue	ڈائلاگ	/daɪ.ə.lɒg/	/dæ.laːg/
Violet	وائلیٹ	/vaɪ.ə.lɪt/	/væ.lɪt/
Violence	وائلنس	/vaɪə.ləns/	/væ.ləns/

4.2. Phonological Transformations of English Loanwords in Urdu

Table 6

Phonological Adaptation of the Word "Tiger" into Urdu

Aspect	Details
English Phonological Transcription	/taɪ.gər/
Urdu Phonological Transcription	/tæ.gər/
Substitution of Vowels	The diphthong /aɪ/ in English is replaced with the monophthong /æ/ in Urdu. This reflects Urdu's preference for simpler vowel sounds and reduced complexity.
Syllabic Structure Modification	The final schwa /ər/ in English is retained in the Urdu adaptation as /ər/, with only minor phonetic variation. The syllabic pattern remains largely unchanged.

Table 7

Phonological Adaptation of the Word "Dialogue" into Urdu

Aspect	Details
English Phonological Transcription	/daɪ.ə.lɒg/
Urdu Phonological Transcription	/dæ.laːg/
Vowel Substitution	The diphthong /aɪ/ in English is replaced by the monophthong /æ/ in Urdu, aligning with Urdu's preference for simpler vowel structures.
Medial Vowel Deletion	The unstressed schwa /ə/ in the middle of the English word is omitted in Urdu, resulting in a more compact syllable structure.

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Aspect	Details
Vowel Lengthening	The English back vowel /ɒ/ is realized as a long vowel /aː/ in Urdu, in line with the phonemic tendencies of the Urdu sound system.

Table 8

Phonological Adaptation of the Word "Violet" into Urdu

Aspect	Details
English Phonetic Transcription	/vaɪ.ə.lɪt/
Urdu Phonetic Transcription	/væ.lɪt/
Simplicity of Diphthong	The diphthong /aɪ/ in English is replaced by the monophthong /æ/ in Urdu. This reflects a common trend in Urdu loanword adaptation toward simpler vowels.
Reduction of Syllabic Complexity	The unstressed medial vowel /ə/ is deleted, reducing the syllabic count from three in English to two in Urdu.
Retention of Final Consonant Cluster	The final consonant cluster /lɪt/ is retained, which shows Urdu's tolerance of such clusters in borrowed words, despite them being rare in native vocabulary.

Table 9

Phonological Adaptation of the Word "Violence" into Urdu

Aspect	Details
English Phonetic Transcription	/vaɪə.ləns/
Urdu Phonetic Transcription	/væ.ləns/
Diphthong Simplification	The English diphthong /aɪə/ is simplified to the monophthong /æ/, consistent with Urdu's tendency to reduce vowel complexity in adapted words.
Syllable Reduction	While a vowel is dropped in some similar borrowings, here the medial schwa /ə/ is preserved in Urdu to maintain a disyllabic structure.
Retention of Final Consonant Cluster	The final consonant cluster /-ns/ is retained in Urdu. This conforms to Urdu's phonotactic allowances for certain clusters in loanwords.

Table 10

Substitution of /əʊ / by /o/

English Word	English Phonetic Transcription	Urdu Loanword	Urdu Phonetic Transcription
Follow	/ˈfɒləʊ/	فالو	/fɑːlo/
Stroke	/strəʊk/	اسٹروک	/strok/
Hotel	/həʊˈtɛl/	ہوٹل	/hoːtɛl/

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Table 11

Phonological Adaptation of the Word "Follow" into Urdu

Aspect	Details
English Phonetic Transcription	/ˈfɒləʊ/
Urdu Phonetic Transcription	/fɑːlo/
Vowel Substitution	The English short vowel /ɒ/ is replaced with the long vowel /ɑː/ in Urdu, consistent with Urdu's vowel inventory.
Diphthong Simplification	The diphthong /əʊ/ is simplified to the monophthong /o/ in Urdu, reflecting Urdu's tendency to avoid diphthongs in both native and borrowed terms.
Stress Modification	The primary stress on the first syllable in English is not retained in Urdu, as Urdu does not have a comparable system of syllabic stress.

Table 12

Phonological Adaptation of the Word "Stroke" into Urdu

Aspect	Details
English Phonetic Transcription	/strəʊk/
Urdu Phonetic Transcription	/stroːk/ (اسٹروک)
Diphthong Simplification	The English diphthong /əʊ/ is simplified to the monophthong /o/ in Urdu, reflecting a common adaptation pattern for loanwords.
Consonant Cluster Retention	The initial consonant cluster /str/ is preserved in Urdu, which is unusual for native Urdu words but common in English loanwords.
Stress Matching	The original English stress pattern is largely maintained in Urdu adaptations, as loanwords tend to carry over their stress placement.

Table 13

Phonological Adaptation of the Word "Hotel" into Urdu

Aspect	Details
English Phonetic Transcription	/həʊˈtɛl/
Urdu Phonetic Transcription	/hoːtɛl/ (ہوٹل)
Modification of Diphthong	The diphthong /əʊ/ in the first syllable is replaced by the long monophthong /oː/ in Urdu, simplifying the vowel structure.

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Aspect	Details
Deletion of Schwa	The initial unstressed schwa /ə/ in English is omitted in Urdu since Urdu generally does not have schwa in unstressed syllables.
Stress Shift	The primary stress on the second syllable in English is retained in Urdu pronunciation, although it is less strongly emphasized due to Urdu's stress patterns.

Table 14

Loanwords with the change of diphthong /aɪ/ to pure vowel /æ/

English Word	Urdu Adaptation	English Phonetic Transcription	Urdu Phonetic Transcription
Fire	فائر	/faɪər/	/fæɾ/
Tiger	ٹائگر	/ˈtaɪgər/	/ˈtægɾ/
Oil	آئل	/ɔɪl/	/æl/
Voice	وائس	/vɔɪs/	/væs/
Choice	چوائس	/tʃɔɪs/	/ʧæs/
Dialogue	ڈائلاگ	/ˈdaɪəlɒg/	/ˈdæla:g/
Violet	وائلیٹ	/ˈvaɪəlɪt/	/ˈvælɪt/
Violence	وائلنس	/ˈvaɪələns/	/ˈvælɪns/
Style	اسٹائل	/staɪl/	/stæɬ/

Table 15

Phonological Adaptations of Selected English Loanwords into Urdu

English Word	Urdu Adaptation	English Phonetic Transcription	Urdu Phonetic Transcription	Phonological Processes
Fire	فائر	/faɪər/	/fæɾ/	Substitution: Diphthong /aɪ/ replaced by /æ/. Deletion: Final rhotic /r/ deleted, reducing syllables.
Tiger	ٹائگر	/ˈtaɪgər/	/ˈtægɾ/	Substitution: /aɪ/ replaced by /æ/. Deletion: Unstressed schwa in the second syllable omitted. Assimilation: Rhotic /r/ realized as tap /ɾ/.
Oil	آئل	/ɔɪl/	/æl/	Substitution: /ɔɪ/ replaced by /æ/. Deletion: Simplification of diphthong; final liquid /l/ retained.
Voice	وائس	/vɔɪs/	/væs/	Substitution: Diphthong /ɔɪ/ replaced by /æ/.

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English Word	Urdu Adaptation	English Phonetic Transcription	Urdu Phonetic Transcription	Phonological Processes
				Deletion: Vowel glide simplified; final fricative /s/ retained.
Choice	چوائس	/ʧɔɪs/	/ʧæs/	Substitution: /ɔɪ/ shifts to /æ/. Deletion: Simplification of vowel structure; final /s/ retained.
Dialogue	ڈائلاگ	/ˈdaɪəlɒg/	/ˈdæla:g/	Substitution: /aɪ/ replaced by /æ/. Deletion: Schwa /ə/ removed, reducing syllables from three to two.
Violet	وائلیٹ	/ˈvaɪəlɪt/	/ˈvælɪt/	Substitution: Diphthong /aɪ/ replaced by /æ/.n Deletion: Schwa /ə/ omitted.
Violence	وائلنس	/ˈvaɪələns/	/ˈvælɪns/	Substitution: /aɪ/ replaced by /æ/. Deletion: Schwa /ə/ removed, resulting in disyllabic form.
Style	اسٹائل	/staɪl/	/stæɬ/	Substitution: /aɪ/ replaced by /æ/. Assimilation: Final /l/ realized as dark /ɬ/.

Table 16

Replacement of /θ/ by Dental Aspirated Voiceless Stop /t̪ʰ/ in Urdu Loanwords

English Word	Urdu Loanword	English Phonetic Transcription	Urdu Phonetic Transcription
Authority	اتھارٹی	/əˈθɒrəti/	/əˈt̪ʰa:rəti/
Cloth	کلاتھ	/klɔ:θ/	/kala:t̪ʰ/

Table 17

Phonological Changes in English Loanwords Containing /θ/ Adapted into Urdu

English Word	Urdu Loanword	English Transcription	Urdu Transcription	Phonological Transformations
Authority	اتھارٹی	/əˈθɒrəti/	/əˈt̪ʰa:rəti/	/θ/ replaced by aspirated dental plosive /t̪ʰ/ Syllable structure changes from CV. CV.CVC to V.CV.CVC /r/ shows partial assimilation with retroflex or tapped articulation
Cloth	کلاتھ	/klɔ:θ/	/kala:t̪ʰ/	/θ/ replaced by aspirated dental plosive /t̪ʰ/

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English Word	Urdu Loanword	English Transcription	Urdu Transcription	Phonological Transformations
				Insertion of vowel /a/ to break the consonant cluster /kl/ Syllable pattern changes from CCVC to CVCVC Vowel /ɔ:/ adapted to /a:/ to fit the Urdu vowel system

4.3. Monosyllabic Words

Monosyllabic words are defined as single-syllable units, comprising a vowel nucleus surrounded by consonants. These words can exhibit different syllable structures, such as VVC, CVCC, and CVC. Their importance in phonological analysis stems from their tendency to change in diverse linguistic contexts.

Table 18

English loanwords into Urdu with their Syllable type and structure

English Word	Urdu Word	English IPA	Urdu IPA	English Syllable Structure	Urdu Syllable Structure
Top	ٹاپ	/tɒp/	/ʈɑ:p/	CVC	CVC
Fall	فال	/fɔ:l/	/fa:l/	CVC	CVC
Short	شارٹ	/ʃɔ:rt/	/ʃa:rt/	CVCC	CVCC
Tall	ٹال	/tɔ:l/	/ta:l/	CVC	CVC
Job	جاب	/dʒɒb/	/dʒa:b/	CVC	CVC
Rod	راڈ	/rɒd/	/ɾa:ɖ/	CVC	CVC
Lock	لاک	/lɒk/	/la:k/	CVC	CVC
Shock	شاک	/ʃɒk/	/ʃa:k/	CVC	CVC
Oil	آئل	/ɔıl/	/a:l/	VVC	VC

4.4. Phonological Transformations in Urdu Adaptation of English Monosyllabic Loanwords

A significant modification involves substitution, in which English phonemes that are not present are replaced with their closest Urdu counterparts. For example, the word ‘job’ (/dʒɒb/) is converted to (/dʒa:b/), where the vowel /ɒ/ is substituted with the long vowel /a:/, a sound that exists in Urdu. In a similar manner, ‘rod’ transitions from (/rɒd/) to (/ra:d/). Additionally, modifications such as deletion and alterations in syllable structure further impact the adaptation of loanwords. The absence of the post-alveolar approximant /ɹ/ in Urdu leads to an extension of the vowel, as demonstrated by the transformation of ‘short’ from (/ʃɔɹt/) to (/ʃa:rt/).

4.5. Disyllabic Words

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Disyllabic words consist of two syllables. In phonology, a syllable represents the smallest audibly distinct unit, formed by a vowel (V) or combinations with consonants (C). Disyllabic words may follow patterns such as CV.CV (consonant-vowel, consonant-vowel) or CV.CC (consonant-vowel, consonant-cluster). When English loanwords are integrated into Urdu, various phonological alterations occur due to factors such as differing phoneme inventories, syllable structure preferences, and phonotactic constraints.

4.6. Disyllabic Loanwords

Table 19

Comparison of English Words and Their Urdu Adaptations with Phonetic Transcriptions and Syllable Structures

English Word	Urdu Word	English IPA	Urdu IPA	English Syllable Structure	Urdu Syllable Structure
Follow	فالو	/ˈfɔ.ləʊ/	/fa.loʊ/	CV.CV	CV.CV
Lorry	لاری	/ˈlɒ.ri/	/laː.ri/	CV.CV	CV.CV
Copy	کاپی	/ˈkɒ.pi/	/kaː.pi/	CV.CV	CV.CV
Coffee	کافی	/ˈkɔ.fi/	/kaː.fi/	CV.CV	CV.CV
Bottle	بوتل	/ˈbɒ.tl/	/boː.tl/	CV.CC	CV.CC
Policy	پالیسی	/ˈpɒ.lɪ.si/	/paː.li.si/	CV.CV.CV	CV.CV.CV

4.7. Phonological Transformations in Disyllabic Loanword Adaptation

The incorporation of English loanwords into Urdu entails significant phonological transformations, including substitution, epenthesis, deletion, and assimilation. Distinctive English phonemes are substituted with their Urdu counterparts; for instance, diphthongs such as /əʊ/ in 'follow' are rendered as monophthongs (/o/), while vowels like /ɒ/ in 'copy' convert to /a/. Epenthetic processes introduce vowels to conform to Urdu's syllabic constraints, demonstrated by the transformation of 'bottle' from /bɒ.tl/ to /bo.tal/. Deletion streamlines sounds, exemplified by the change in 'coffee' from /kɔ.fi/ to /ka.fi/, whereas assimilation replaces unconventional phonemes with more familiar alternatives, as seen in the alteration of 'lorry' from /lɒ.ri/ to /la.ri/.

4.8. Syllable Structure Changes in Urdu Adaptation

In adapting English disyllabic words, Urdu demonstrates a preference for open (CV) syllables, avoiding complex codas. Both "Bottle" and "Policy" exemplify this trend, with many loanwords concluding in a CV structure rather than a CC. Additionally, minor adjustments in vowel quality and consonant cluster simplification facilitate compliance with Urdu's phonotactic constraints while preserving original meanings.

4.9. Trisyllabic Words

Trisyllabic words consist of three syllables, typically featuring a vowel nucleus accompanied by an onset (consonants preceding the nucleus) and a coda (consonants following the nucleus). Variations in stress placement, vowel reductions, and phonotactic constraints of the target

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language can lead to different syllable arrangements. Each original term from one language may undergo phonological changes when adapted to another with a distinct phonological system.

Table 20

Trisyllabic Loanwords

English Word	Urdu Word	English IPA	Urdu IPA	English Syllable Structure	Urdu Syllable Structure
America	امریکا	/əˈmɛ.rɪ.kə/	امریکا	V.CV.CV	V.CV.CV
Laboratory	لیبارٹری	/ˈlæb.rə.tɔ.ri/	لیبارٹری	CV.CV.CV.CV	CV.CV.CV.CV
Technology	ٹیکنالوجی	/tɛkˈnɒ.lə.dʒi/	ٹیکنالوجی	CVC.CV.CV.CV	CVC.CV.CV.CV
Authority	اتھارٹی	/əˈθɔ.rə.ti/	اتھارٹی	V.CV.CV.CV	V.CV.CV.CV
Comedy	کامیڈی	/ˈkɒ.mɪ.di/	کامیڈی	CV.CV.CV	CV.CV.CV
Cinema	سینما	/ˈsɪn.ə.mə/	سینما	CV.CV.CV	CV.CV.CV

4.10. Phonological Transformations in Urdu Loanword Adaptation

English words borrowed into Urdu often experience phonological modifications due to Urdu's phonological and phonotactic constraints. These changes may involve alterations, deletions, epenthesis, assimilation, or substitution

English loanwords in Urdu undergo systematic phonological changes to align with native linguistic patterns. Substitution replaces unfamiliar English phonemes with Urdu equivalents, as seen in the shift from /ɒ/ to /ɑ/ in ‘Technology’ and from /θ/ to /tʰ/ in ‘Authority.’ Assimilation alters sounds to match adjacent ones, exemplified by ‘Cinema.’ Epenthesis adds vowels for smoother pronunciation, as in ‘Laboratory,’ while deletion removes unstressed vowels, noted in ‘America.’ Additionally, syllable structures adapt to the CV (consonant-vowel) pattern of Urdu, transforming words like ‘Comedy’ and ‘Laboratory.’ These phonological adjustments reflect the principles of Natural Phonology, facilitating the integration of borrowed terms into the cultural context.

5. Findings and Recommendations

The examination of 199 English loanwords in Urdu demonstrates consistent adaptation patterns, including sound substitution, vowel insertion to break consonant clusters, and sound deletion to conform to Urdu phonotactic rules. These processes enable Urdu to preserve its phonological system while exhibiting variation shaped by sociolinguistic factors such as education, region, and generation.

5.1. Findings of Research Question 1

The analysis reveals that several phonological processes are employed in adapting English loanwords into Urdu. A prominent process is **vowel insertion (epenthesis)**, which helps resolve consonant clusters that are impermissible in Urdu phonotactics, as in *street* /striːt/ → اسٹریٹ /is.ʈɾiːʈ/. Another process is **substitution**, where English sounds absent in Urdu are replaced with the closest available equivalents, such as /ð/ in *this* realized as [d] or [z]. While Urdu generally lacks diphthongs like /aɪ/ or /ɔɪ/, loanwords such as *tyre* / ٹائر →taːɹ/ demonstrate attempts at either preservation or approximation, reflecting Urdu’s increasing phonological flexibility under English influence.

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Additional processes include **consonant deletion**, where difficult or non-native sounds such as /θ/ in *cloth* are omitted or substituted, and **assimilation with resyllabification**, which restructures words to conform to Urdu's syllable-timed rhythm. For example, *laboratory* /ləˈbɒɹəˌt(ə)ɹi/ becomes / لیبارٹری/le:ba:ʈri:/, with modified syllable structure and stress. These processes collectively illustrate how English loanwords are systematically reshaped to align with Urdu phonological constraints while simultaneously expanding its sound patterns.

5.2. **Findings of Research Question 2**

The adaptation of English loanwords is gradually reshaping Urdu phonology by expanding its vowel inventory, introducing new consonantal sounds, and loosening syllable constraints. English diphthongs such as /aɪ/ in voice / وائسwaɪs/ and choice / چوائسtʃwaɪs/ are increasingly accepted, particularly among educated urban speakers, reflecting a shift towards greater phonological flexibility. Similarly, consonants like /g/ in tiger and /dʒ/ in job have been normalized, showing that Urdu is incorporating new phonemic contrasts through continuous contact with English. This interaction has also influenced syllable structure, allowing complex clusters in words like sports / اسپورٹسɪs.poːɾʈs/, a development not typical of native Urdu phonotactics.

English loanwords in Urdu have undergone various alterations, highlighting the connection between sociolinguistic factors and phonological restrictions. Some alterations continue due to "systemic compatibility"—substituting sounds according to Urdu's phonotactic standards (e.g., inserting a vowel to break up consonant clusters). The process also relies on "sociolinguistic motivations". Speakers may maintain English emphasis in formal circumstances to show they are speaking the prestige language or to keep up with the world's linguistic norms.

Modifications like /v/ → /w/ and vowel insertion (e.g., _school_ → _iskul_) remain important "linguistic identity" qualities, promoting communication. Conversely, stress pattern copying (e.g., _technology /tɛkˈnɒlədʊi/ → /ʈek.naːloːdʊiː/) emphasises "perception of the speaker" and "contextual formality". These techniques illustrate that loanword adaptation depicts Urdu's changing vocabulary and phonology in a multilingual situation and is not merely phonological "repair" but rather a "negotiation of linguistic norms".

6. Conclusion

This study examined the phonological processes involved in the adaptation of English loanwords into Urdu and their influence on Urdu's broader phonological system. Using a qualitative analysis of 199 commonly used loanwords within the framework of Stampe's (1979) Natural Phonology, the research identified systematic strategies such as syllable rearrangement, assimilation, insertion, deletion, and substitution. These adaptations reflect Urdu speakers' tendency to replace non-native sounds, including English fricatives /θ/ and /ð/ or complex diphthongs, with familiar phonemes, and to insert vowels to break consonant clusters, particularly in word-initial positions. Such modifications demonstrate a natural effort to integrate foreign sounds into Urdu phonotactics while maintaining ease of perception and articulation.

The findings further reveal that continuous English borrowing is gradually reshaping Urdu's phonological landscape, with non-native sounds and complex syllable structures becoming

increasingly accepted, particularly among younger, urban speakers and in media discourse. These adaptations highlight the dynamic interaction between linguistic, social, and cultural factors, showing that Urdu simultaneously accommodates external influences while preserving its core phonological identity. The study highlights that Urdu employs systematic processes such as epenthesis, substitution, deletion, and assimilation to adapt English loanwords, while the analysis also demonstrates that these adaptations are expanding Urdu's sound system and syllable patterns, thereby contributing to its ongoing phonological change.

7. Suggestions for future research

It is imperative for future research endeavours to engage in longitudinal investigations that facilitate the tracking of loanword adaptation processes over an extended temporal framework.

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