

## MODIFICATION OF PHONEMES. COMPARATIVE PHONETICS. COMPARATIVE PHONOLOGY

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**ANNOTATION:** The article examines the linguistic phenomena related to the modification of phonemes and explores their role within comparative phonetics and comparative phonology. It provides an in-depth analysis of how phonemes change their quality and quantity under the influence of phonetic environment, stress, position, and assimilation processes in different languages. Special attention is given to major types of phoneme modification—such as assimilation, dissimilation, reduction, elision, and accommodation—and how these processes affect the pronunciation norms and sound patterns of world languages. Within the framework of comparative phonetics, the article discusses the articulatory and acoustic characteristics of sounds across languages and highlights cross-linguistic similarities and differences in consonant and vowel systems. It outlines how languages exhibit diverse patterns of voicing, aspiration, vowel length, diphthongization, and stress placement, showing how phonetic comparison helps identify universal features of human speech as well as language-specific tendencies. Through comparative analysis of phonological systems, the study demonstrates how languages contrast sounds differently, how phonological oppositions are maintained or neutralized, and how sound patterns reflect deeper typological relationships.

**KEY WORDS:** phoneme modification; assimilation; reduction; comparative phonetics; comparative phonology; sound system; phoneme inventory; prosody; stress; intonation.

The study of phoneme modification and the comparison of phonetic and phonological systems represent one of the central areas of modern linguistics. Understanding how sounds function, change, and interact in different languages enables researchers to identify both universal and language-specific patterns of spoken communication. These areas are particularly important for specialists engaged in theoretical linguistics, applied linguistics, second language teaching, and comparative studies. By analyzing sound systems from multiple perspectives, linguists can explain why speakers of one language experience difficulties when learning the pronunciation norms of another language, and how sound change contributes to language evolution.

Phoneme modification refers to the systematic and predictable changes that phonemes undergo when used in connected speech. Although phonemes are defined as the smallest distinctive units of sound, their actual realization in speech—their allophones—frequently differs depending on phonetic context. Among the most common types of modification is assimilation, a process in which one sound becomes similar to a neighboring sound in its articulatory or acoustic features. Assimilation can be progressive or regressive, complete or partial, and may occur in place of articulation, manner of articulation, or voicing. For instance,

in English the alveolar nasal /n/ becomes the velar nasal /ŋ/ before a velar consonant, as in think. Another type of modification, dissimilation, occurs when a sound becomes less similar to another sound to facilitate easier articulation or prevent repetition. Though less common than assimilation, dissimilation is significant in historical linguistics. Reduction, which involves the weakening or centralization of vowels, is extremely common in stress-timed languages such as English; unstressed vowels often become the neutral schwa /ə/. Elision, the omission of sounds, occurs frequently in casual or rapid speech, contributing to the natural rhythm of spoken language. Accommodation, or coarticulation, describes the mutual influence of vowels and consonants during articulation, such as palatalization before front vowels or lip rounding before rounded vowels.

Comparative phonetics aims to analyze and compare the articulatory, acoustic, and perceptual characteristics of sounds across languages. It investigates how the same type of sound may be produced differently in different linguistic environments. For instance, the English vowel system is richer than the vowel systems of many other languages, with multiple distinctions in vowel length and quality. Languages also vary in their use of diphthongs, nasal vowels, tense–lax distinctions, and vowel harmony systems. Consonantal differences include variations in aspiration, place of articulation, voicing contrasts, and the presence or absence of phonemes such as /θ/, /ð/, or uvular sounds. Comparative phonetics also examines suprasegmental features—stress, rhythm, and intonation—which significantly shape a language’s phonetic identity. Stress-timed languages like English exhibit strong contrasts between stressed and unstressed syllables, while syllable-timed languages such as Uzbek or Spanish maintain relatively equal syllable durations. These rhythmic differences often cause foreign accent when speakers transfer the prosodic patterns of their native language to a second language. Intonation, which conveys meaning beyond individual words, also differs across languages, influencing the interpretation of questions, statements, and emotions.

Comparative phonology, on the other hand, focuses not on the physical realization of sounds but on the functional and structural organization of sound systems. Phonology investigates how languages categorize sounds into phonemes, how these phonemes contrast with each other, and what rules govern their distribution and combination. A key concept in comparative phonology is the phoneme inventory, the set of phonemes each language uses to form lexical distinctions.

For example, English has a relatively large inventory, with 20+ vowels and diphthongs and around 24 consonants, whereas Uzbek has fewer vowel distinctions and a different consonant system. Distinctive features such as [+voice], [+nasal], [+round], or [+back] allow linguists to classify phonemes and compare them across languages in a systematic way. Phonotactic rules—restrictions on allowable sound sequences—also vary greatly. English allows complex consonant clusters both at the beginning and end of syllables, while Uzbek tends to favor simpler syllable structures and avoids heavy clusters. Such differences have practical implications for second language acquisition: learners may simplify unfamiliar clusters or substitute unfamiliar phonemes with the closest sounds from their native language.

The processes studied in phonology include neutralization, where phonological contrasts are lost in specific environments, assimilation understood functionally rather than articulatorily, epenthesis (the insertion of sounds), deletion, and metathesis. Cross-linguistic analysis of these processes helps linguists identify universal patterns of sound change and

understand how phonological systems evolve over time. Comparative phonology also contributes to language typology, enabling the classification of languages based on similarities in their sound systems.

Together, the study of phoneme modification, comparative phonetics, and comparative phonology provides a comprehensive perspective on how sounds function in human language. These fields complement each other: while phoneme modification and comparative phonetics deal with the physical, observable characteristics of sound production, comparative phonology explores the underlying structural principles that govern sound organization. For researchers and educators, understanding both aspects is essential. In foreign language teaching, for example, instructors who are aware of the differences in sound systems can better predict students' pronunciation challenges, design effective training techniques, and help learners achieve clearer, more native-like pronunciation. In theoretical linguistics, these studies contribute to the development of models of speech production and perception, as well as to the reconstruction of historical sound changes.

In addition, phoneme modification and the comparative study of phonetic and phonological systems reveal important insights into the complexity of spoken language. By examining how sounds interact, how languages differ in their use of phonemes, and how phonological rules shape pronunciation, scholars can develop a deeper understanding of linguistic structure and variation. These areas of research remain central to linguistics and continue to provide valuable contributions to language learning, typology, and the broader study of human communication.

In conclusion, the analysis of phoneme modification, comparative phonetics, and comparative phonology provides a comprehensive understanding of how sound systems operate both within individual languages and across linguistic communities. The modification of phonemes—through processes such as assimilation, dissimilation, reduction, elision, and accommodation—demonstrates that speech is not a static sequence of isolated sounds, but a dynamic, context-dependent phenomenon shaped by articulatory and communicative needs. Comparative phonetics contributes to this understanding by examining the articulatory and acoustic differences between languages, revealing how vowel systems, consonant inventories, prosodic features, and rhythm patterns vary and influence the phonetic identity of each language. Comparative phonology, in turn, highlights the structural and functional organization of sound systems, showing how phonemes contrast, combine, and follow specific phonotactic rules that define the linguistic patterns unique to each language. Ultimately, the study of phoneme modification and comparative sound systems enriches our understanding of linguistic structure, deepens our appreciation of cross-linguistic variation, and contributes to the broader field of phonetic and phonological research by revealing the universal principles and language-specific characteristics that shape human communication.

### **Adabiyotlar, References, Литературы:**

1. Catford, J. C. (2001). A practical introduction to phonetics (2nd ed.). Oxford University Press.
2. Crystal, D. (2008). A dictionary of linguistics and phonetics (6th ed.). Wiley-Blackwell.
3. Ladefoged, P., & Johnson, K. (2014). A course in phonetics (7th ed.). Cengage Learning.
4. Roach, P. (2009). English phonetics and phonology: A practical course (4th ed.).

Cambridge University Press.

5. Gimson, A. C., Cruttenden, A., & Ashby, M. (2014). Gimson's pronunciation of English (8th ed.). Routledge.
6. Odden, D. (2013). Introducing phonology (2nd ed.). Cambridge University Press.
7. Kenstowicz, M. (1994). Phonology in generative grammar. Blackwell Publishers.
8. Nafisa, T. (2023). NOUNS AND THEIR GRAMMATICAL CATEGORIES. Новости образования: исследование в XXI веке, 2(16), 292-297.
9. Nafisa, T., & Marina, S. (2023). TEACHING AND LEARNING OF ENGLISH VOCABULARY IN TESL AND TEFL CLASSROOMS. International Journal of Contemporary Scientific and Technical Research, 465-469.
10. Nafisa, T. (2023). THE USA ECONOMY, INDUSTRY, MANUFACTURING AND NATURAL RESOURCES OF GREAT BRITAIN. INTERNATIONAL JOURNAL OF RECENTLY SCIENTIFIC RESEARCHER'S THEORY, 1(9), 94-97.
11. Nafisa, T. (2023). Secondary ways of word formation. In Conference on Universal Science Research (Vol. 1, No. 12, pp. 109-112).
12. Teshaboyeva, N. (2023). Compound sentences in the English language. Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari, 2(2), 68-70.
13. Teshaboyeva, N. Z. (2023). Modifications of Consonants in Connected speech. In Conference on Universal Science Research (Vol. 1, No. 11, pp. 7-9).
14. Teshaboyeva, N. Z., & Niyatova, M. N. (2021). General meanings of the category of tenses. International Journal of Development and Public Policy, 1(6), 70-72.
15. Zubaydulla, T. N. (2023). THE CLASSIFICATION OF SYNONYMS AND THEIR SPECIFIC FEATURES.". XXI ASRDA INNOVATSION TEXNOLOGIYALAR, FAN VA TA'LIM TARAQQIYOTIDAGI DOLZARB MUAMMOLAR" nomli respublika ilmiy-amaliy konferensiyasi, 1(12), 126-131.
16. Teshaboyeva, N., & Yakubova, N. (2023). CHANGES OF MEANING OF WORDS. Центральноазиатский журнал образования и инноваций, 2(12), 126-129.