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F. Sh. Djuraeva
PhD in Philology, Associate Professor,
Oriental University, Tashkent

A. Bazarbaev
Master's Student,
Oriental University, Tashkent

COMPARISON OF GENERAL AND SPECIFIC FEATURES IN THE PHONETIC SYSTEMS OF ARABIC AND UZBEK LANGUAGES

Abstract

The comparative study of Arabic and Uzbek phonetics explores both universal and language-specific features of speech sounds. This research examines consonantal and vowel inventories, articulatory mechanisms, and prosodic patterns in Modern Standard Arabic (MSA) and Standard Uzbek, aiming to identify shared phonetic principles and unique language-specific characteristics. The study employs descriptive and contrastive phonetic methods, analyzing phonemic inventories and typological patterns. Results indicate that while general phonetic mechanisms are present in both languages, Arabic demonstrates emphatic consonants and vowel length distinctions absent in Uzbek, whereas Uzbek exhibits predictable stress and simpler consonant clusters. These findings contribute to theoretical phonetics and provide practical insights for second language acquisition.

Keywords: Arabic phonetics, Uzbek phonetics, vowel systems, consonant articulation, phonetic universals, language-specific features, prosody, comparative phonetics

The comparative study of phonetics across genetically unrelated languages such as Arabic and Uzbek provides valuable insights into both universal phonetic principles and language-specific articulatory patterns. This study aims to identify the general phonetic mechanisms shared across languages and the particular features that distinguish Modern Standard Arabic (MSA) and Standard Uzbek. Understanding these aspects is crucial for theoretical phonetics, typological linguistics, and practical applications in second language acquisition. The methodology integrates descriptive and contrastive approaches, utilizing phonemic inventories, articulatory descriptions, and typological analysis. The results reveal that while both languages share core phonetic universals, they diverge significantly in consonantal inventories, vowel systems, prosodic organization, and phonotactic constraints. These findings illuminate the interaction between universal speech mechanisms and language-specific adaptations, offering implications for pedagogy and phonetic theory.

Phonetics, as the scientific study of speech sounds, examines articulatory, acoustic, and auditory properties of human language. Across languages, articulatory features such as place and manner of articulation, voicing, nasality, and vowel height represent universal mechanisms underlying phonological organization[1]. In Arabic, the consonantal inventory is particularly rich, including pharyngeal, uvular, and emphatic consonants, which have no direct parallel in Uzbek. Modern Standard Arabic has 28 consonant phonemes and three short and long vowel pairs: /a aː/, /i iː/, and /u uː/, with phonemic contrasts realized through vowel length

[1] Ladefoged & Maddieson, 1996, pp. 12–13

and secondary articulation[2]. The emphatic consonants /sˤ/, /dˤ/, /tˤ/, and /ðˤ/ influence the quality of adjacent vowels, demonstrating a complex interaction between segmental and suprasegmental features[3]. Diacritics in written Arabic indicate short vowels, which are often omitted in texts, requiring native competence for correct pronunciation[4].

In contrast, Uzbek phonetics presents a smaller vowel inventory of six primary vowels, and a consonant system shaped by Turkic phonological heritage with influences from Persian, Arabic, and Russian. Standard Uzbek exhibits reduced vowel harmony compared to other Turkic languages and favors final-syllable stress, though morphological suffixation can alter stress patterns[5]. A distinctive feature of Uzbek phonetics is the presence of a system of 24 consonant phonemes, differentiated by place and manner of articulation, including labial, gliding, and dorsal sounds, as well as the active role of sonorants and vowels in shaping sonority[6]. Uzbek consonants include typical Turkic plosives, fricatives, and affricates, with articulatory patterns remaining largely stable across dialects[7]. Unlike Arabic, Uzbek lacks emphatic or pharyngealized consonants, and vowel length distinctions are less phonemically significant, illustrating how language-specific features can diverge from universal phonetic tendencies.

Despite these differences, Arabic and Uzbek share general phonetic principles. Both languages distinguish vowels and consonants by place and manner of articulation, voicing, and nasality. Vowels in both languages function as syllabic nuclei, while consonantal segments form the onset or coda positions within syllables[8]. Both systems exhibit systematic syllable structure rules, though the specific constraints differ. Arabic permits

[2] Salameh & Abu-Melhim, 2015, pp. 60–61
[3] Bani Salameh, 2015, pp. 32–33
[4] Salameh & Abu-Melhim, 2015, pp. 62–63
[5] Ergashova, 2025, pp. 98–99
[6] Jamolxonov, 212-213-betlar.
[7] Qarshiyeva & Hamidov, 2025, pp. 2664–2665.
[8] Ladefoged & Maddieson, 1996, pp. 14–15.

consonant clusters and complex syllables in certain positions, whereas Uzbek favors simpler CV or CVC structures, reflecting typological distinctions.

Prosody further highlights particular differences. Arabic stress is influenced by syllable weight and vowel length, and emphatic consonants can trigger secondary articulatory effects on stressed syllables[9]. In contrast, Uzbek stress is relatively predictable, typically falling on the final syllable of words or morphological stems, and vowel harmony, while historically significant, is weakly realized in modern standard speech[10]. These prosodic patterns demonstrate how the same universal mechanisms, such as syllable-based stress, can manifest differently across languages, shaped by historical evolution and language contact.

The vowel systems of Arabic and Uzbek reveal both universals and particulars. Arabic's three short and long vowel pairs provide phonemic contrasts essential for lexical and morphological distinctions, with long vowels affecting prosodic structure[11]. Uzbek's six vowels contrast in height and backness but do not employ length as a phonemic distinction, reflecting typological differences[12]. Additionally, Arabic vowels interact with adjacent emphatic consonants to produce allophonic variations, whereas Uzbek vowels maintain relatively consistent quality across phonetic contexts[13]. Furthermore, the distinction between Uzbek and Arabic phonetics is evident in the fact that Uzbek employs the phonological features of "labiality–non-labiality" and three degrees of tongue height in vowel articulation, which are absent in Arabic, where the phonetic system does not include such vertical and labial oppositions[14].

[9] Bani Salameh, 2015, pp. 34–35
[10] Ergashova, 2025, pp. 100–101
[11] Salameh & Abu-Melhim, 2015, p. 61.
[12] Salameh & Abu-Melhim, 2015, pp. 61–62
[13] Ergashova, 2025, pp. 99–100
[14] Jamolxonov, 26-bet.

The comparative analysis demonstrates that universal phonetic mechanisms, such as articulatory distinctions, syllable structure, and segmental organization, underpin both Arabic and Uzbek phonetics. Language-specific adaptations, including emphatic consonants, vowel length contrasts, and prosodic rules in Arabic, and stress patterns and simplified consonant clusters in Uzbek, illustrate the particular phonetic identity of each language. This interaction between universals and particulars informs typological linguistics and offers practical implications for second language teaching. For instance, understanding Arabic emphatic consonants is essential for Uzbek speakers learning Arabic, as the phonetic contrasts are absent in their native language, potentially leading to pronunciation challenges.

In conclusion, this study elucidates the relationship between general phonetic principles and language-specific features in Arabic and Uzbek. The findings confirm that while universal articulatory mechanisms provide a foundation for human speech, the specific phonetic realizations are shaped by historical, typological, and contact-driven factors. These insights are relevant for theoretical phonetics, cross-linguistic comparison, and applied linguistics, particularly in designing curricula for language learners. Future research could incorporate acoustic analysis and perceptual studies to quantify differences in vowel quality, consonantal articulation, and prosody, further refining our understanding of universals and particulars in phonetic systems.

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