ISSN: (3006-8614)
E-ISSN: (3006-8622)
Journal of Alma'rifa for Humanities
available online at: https://uomosul.edu.iq/womeneducation/almarifa/

Phonetic Features and Phonological Gaps in Sound Borrowing in Mosuli Arabic

Ibtihal A. Mohammed Saeed
Al-Hadbaa' University

Anmar H. Saeed
College of Arts/ University of Mosul

***Corresponding author: E-mail:**
anmar.h.saeed@uomosul.edu.iq

0000-0002-9287-9619

***Keywords*:**
distinctive features,
phonological gaps,
linguistic borrowing,
sound borrowing,
feature economy

ARTICLE INFO

Article history:
Received **16. Jul.2025**
Revised **24. Oct.2025**
Accepted **4. Nov.2025**
Available online **3.Jan.2026**

Email:
almarefaa.ecg@uomosul.edu.iq

ABSTRACT

This study investigates the role of phonetic features and phonological gaps in sound borrowing in Mosuli Arabic (MA). It aims to identify borrowing patterns and analyze how phonological gaps and distinctive features shape this process. The study tests three hypotheses: (i) phonological gaps and phonetic features in MA drive sound borrowing; (ii) borrowing fills these gaps and expands the phonological inventory; and (iii) borrowing is systematic, guided by the phonetic features of the MA consonant system. The data consisted of 100 English loanwords, collected from everyday communication, social media, and literature. The pronunciation of 17 MA informants was transcribed using the IPA symbols. The analysis was based on the principles of feature economy (Clements, 2003). Beyond its phonological contribution, the study offers valuable implications for AI-driven Arabic natural language processing, particularly in speech recognition and modeling loanword adaptation. It also contributes to sustainable language development by documenting Mosuli Arabic, thereby supporting the preservation of this under-researched dialect as part of the region's intangible linguistic heritage.

السمات الصوتية والفجوات الفونولوجية في الاقتراض الصوتي في العربية الموصلية

ابتهال علي محمد انمار حمودي سعيد
كلية الحدباء الجامعة جامعة الموصل/ كلية الآداب

الخلاصة:

تتناول هذه الدراسة دور السمات الصوتية والفجوات الصوتية في ظاهرة الاقتراض الصوتي في العربية الموصلية. وتهدف إلى تحديد أنماط الاقتراض وتحليل كيفية تأثير الفجوات الصوتية والسمات المميزة في هذه العملية. تختبر الدراسة ثلاث فرضيات: (1) أن الفجوات الفونولوجية والسمات الصوتية في نظام العربية الموصلية هي المحرك الأساسي للاقتراض؛ (2) أن الاقتراض يساهم في سد هذه الفجوات ويوسّع المخزون الفونولوجي؛ (3) أن عملية الاقتراض ليست عشوائية، بل منظمة، وتعتمد على السمات الصوتية للنظام الصامت في العربية الموصلية. اعتمدت الدراسة على مئة كلمة دخيلة من اللغة الإنكليزية جُمعت من الاستعمال اليومي ووسائل التواصل الاجتماعي والمصادر المكتوبة، مع تفريغ صوتي لبيانات 17 متحدّثاً موصلياً. استند التحليل إلى مبادئ الاقتصاد في السمات. وإلى جانب إسهامها الفونولوجي، تقدّم الدراسة معطيات مهمّة لمعالجة اللغة الطبيعية العربية بالإعتماد على الذكاء الاصطناعي، خاصة في مجال التعرّف الصوتي ونمذجة الكلمات الدخيلة، كما تساهم في التنمية اللغوية المستدامة من خلال توثيق العربية الموصلية بوصفها جزءاً من التراث اللغوي غير المادي للمنطقة.

الكلمات المفتاحية: السمات الصوتية، الفجوات الصوتية، الاقتراض اللغوي، الاقتراض الصوتي، اقتصاد السمات الصوتية.

1. Introduction

Linguistic borrowing is a phenomenon that is as old as language itself; phonemes, morphemes, words, and syntactic structures from one language are imported into another language (Thomason & Kaufman, 1988). In a language contact scenario, speakers of one language may adopt words from another language into their language, causing language to change. The teaching of English was introduced into Iraqi schools as early as 1918. English remained Iraq's most prominent foreign language, reinforced by the US military occupation from 2003 to 2010. Contact with English has introduced more abstract concepts, such as scientific terms. Many English words have been added to Mosuli Arabic (MA), a vernacular

dialect spoken in Northern Iraq, over time. The word *'internet'* came from English and is now used in many other languages. It is seen that the new generation in Mosul uses English words because they have a positive attitude toward this language and they believe that it is more prestigious.

If a language lacks a typologically frequent consonant and borrows words from other languages, chances are high that these words will contain the missing sound. Languages broaden their phonological inventories due to the borrowing of vocabulary. In a study by Matras in 2007, it was found that nearly all the languages they examined included borrowed words, along with some of their original sounds, which were new to the language adopting them. These sounds are frequently referred to as "borrowed", "loan", or "foreign" phonemes (Matras, 2007a, p. 37). The act of sound borrowing can influence the phonological structure of the borrowing language in several manners. The most evident impact is the addition of a new sound into a language, like the pharyngeal segment /ħ/ in Domari that was introduced through Arabic loanwords such as /mbaːreħ/ *'yesterday'* (Matras 2007b, p.p. 152–153, 156).

In the age of AI-driven language technologies, understanding the phonetic and phonological processes underlying sound borrowing provides essential data for improving Arabic Natural Language Processing (NLP) systems and for supporting the digital sustainability of lesser-documented dialects such as MA.

2. Aims of the Study

This study investigates the role of phonetic features and phonological gaps in sound borrowing in MA. It aims to identify borrowing patterns and analyze how phonological gaps and distinctive features shape this process. By examining the relationship between phonetic features, phonological gaps, and borrowed sounds in MA, this study demonstrates that borrowing is systematically motivated by the lack of phonological symmetry within

the native system. It contends that sound borrowing functions as a strategy of phonological enrichment, filling structural gaps rather than simply adapting foreign sounds.

3. Questions of the Study

1. What specific phonological gaps exist within the consonantal system of MA, and how do these gaps motivate the borrowing of non-native sounds based on phonetic feature compatibility?
2. How does sound borrowing contribute to the systematic filling of phonological gaps in MA, thereby promoting the expansion and symmetry of its phonemic inventory?
3. To what extent is the process of sound borrowing in MA governed by the distinctive features of its consonantal system, reflecting a structured and predictable phonological pattern?

4. Hypotheses

In the light of the questions stated above and to achieve the aims given in section 2 the present study proceeds to validate the following hypotheses:

1. **Phonological gaps in (MA) motivate sound borrowing, and borrowed sounds are selected based on their phonetic feature compatibility with the MA system.**
2. **Sound borrowing in MA systematically fills these phonological gaps, leading to an expansion and increased symmetry of the phonemic inventory.**
3. **The process of sound borrowing in MA is not arbitrary but governed by the distinctive features of the consonantal system, reflecting a structured and predictable pattern.**

5. Theoretical Background and Literature Review

According to Robins (1970), adopting words from other languages may indicate demands for power, prestige, being in style, food, technology,

globalization, modernization, and geographic mobility. Many Arabic nouns are incorporated into Kurdish, along with many of the sounds they include, such as the pharyngeal fricatives /ħ/ and /ʕ/, as in *'haywan'*, which means *'animal'*, pronounced [ħaj'wa:n], or *'saa'aat'* which means *'hours'*, pronounced [sa:'ʕa:t] (Matras, 2009, p. 223). The phonological structure of the borrowing language may be impacted by segment borrowing in several ways. The most obvious is the addition of a new segment to a language, such as the Arabic loanword /maʕa/ for "with" in Domari that introduced the pharyngeal segment /ʕ/ (Matras 2007b, p.p. 152–153, 156). When a word is borrowed, words retain segments alien to the phonological consonantal system of the receiving language, enriching the recipient languages' sound inventory. This technique is known as sound borrowing (Eisen, 2019, p. 8).

Amani (2010), investigates the role played by structural borrowing from Kiswahili in reshaping the structure of Chimalaba. The analysis of structural borrowing from Kiswahili into Chimalaba is based on assimilation theory (Piaget, 1950), and phonological constraints on structural borrowing (Weinreich, 1953). The assimilation process is used to analyze and identify loanwords adopted or adapted into the system of the recipient language and their impact on the phonology of the recipient language. In contrast, phonological constraints are used to analyze how structural items from Kiswahili have entered into Chimalaba. The introduction of new sounds into Chimalaba through borrowing has been possible due to phonological gap constraints. The existence of gaps in the phonemic inventory of the recipient language facilitates the importation of new phonemes that fill such gaps. There were gaps in Chimalaba's old fricative system; these gaps have been filled by the sounds /f/, /z/, and /ʃ/.

Amani (2010) has come up to the conclusion that borrowing structural features (phonological) from Kiswahili into Chimalaba was

facilitated by external factors (language contact) and internal factors (presence of gaps in the fricative system in Chimalaba).

Maddieson (1986) states that, when one language is affected by another, one possible result is an addition to the phonemic inventory; new contrastive sounds may enter via lexical borrowing. Language contact, including phonemic borrowing, is essential in limiting the variability of phoneme inventory size. Maddieson used the USPID inventory (phonological segment inventory database) to decide how the phonological structure of the recipient language determines which segments are borrowed. Every language that has any consonantal segment marked in the USPID inventory as loan phonemes was examined. So consonant segments where divided into series (voiced nasal, voiced plosive, voiceless fricatives, etc.). The degree of similarity between segments will be assessed mainly by whether they share a central manner and place or features which are promote sound borrowing process. So, the result of this data analysis is that segments are most likely to be borrowed when there are already appropriate segments to promote the adoption of the new segments; it appears that segments closer to the existing resources of the recipient language are more likely to be borrowed. Maddieson also sheds light on the frequency of a particular sound across the world languages, and segment inventory frequency is necessarily a factor in the borrowing process.

6. Phonological Structural Gaps

The literature on language change often cites the presence of structural gaps in the consonantal phonological system as one of the contributing factors influencing language internal phonological change. Winford (2003, p.p. 55-56), along with other scholars, underscores the significance of gaps for adoption. In establishing his initial phonological constraint for linguistic borrowing, he indicates that the presence of gaps in the phonemic inventory of the receiving language facilitates the

incorporation of novel phonemes or phonemic contrasts that fill these gaps. Therefore, adoption via borrowing as an external process may become a factor that supports internal changes. As a result, phonemicization can be thought of as a specific kind of structural gap-filling.

The idea of gaps is not novel or new; for instance, de Groot (1949, p.p. 192-193) alludes to them by suggesting that, a phoneme in an unoccupied area can be seen as existing in a potential state, merely awaiting to be brought into existence. When a specific language possesses a gap in its phoneme structure, a new phoneme emerges, occupying this gap. This newly formed phoneme is initially the most distinguishable from the pre-existing phonemes. One striking property of spoken languages is that they prefer sound systems without gaps (de Groot, 1931; Martinet 1968; Clements, 2003).

Martinet (1968, p.p. 480-485) also addressed the concept of gaps. In contemporary language, his definition of a gap can be interpreted as a sound that doesn't create a contrast in a specific language, even though all of its unique features are used contrastively in that language's phonological system. Martinet identifies segment borrowing as a key mechanism for filling these gaps. He contends that a gap is likely to be filled, which can occur through borrowing, with a foreign phoneme being readily accepted if it consists of familiar articulations. Phonological adoption occurs when suitable holes in the pattern or empty cases in the primary phonemic system into which strange phonemes of the secondary system can be pigeonholed to pronounce words in the foreign language (Weinreich, 1953, p. 22).

Maddieson (1985), as cited by Nikolaev (2021, p.182), tried to measure the relative significance of gap-filling for segmental borrowing. He noticed that about half of the segmental borrowing situations he examined can be seen as gap-filling instances. Inventory gaps are a term that phonologists frequently use to describe situations where specific

segments are supposed to be present in an inventory but are not. Gaps in the phonemic inventory play a significant role in phonological adoption through lexical borrowing, viewed as a way of structural gap filling. Source language sounds that do not have phonemic status in the recipient language but share standard features with existing recipient language segments, it is argued, are more easily adopted than source language structures that are wholly foreign or unfamiliar (Maddieson, 1986, p.p. 1-10).

7. Phonological Analysis and Distinctive Features

One of the fundamental discoveries of modern linguistics is that it has significantly advanced the study of the phonological aspect of human speech over the past decades. As a result, the discovery is that the phonological segments or phonemes are not the primary components of phonological analysis but rather factor into smaller, simultaneous properties or features. Speech sounds as a collection of features were reintroduced into linguistics in 1928 by the Prague School linguists and were fundamental to some of the most essential phonological studies of the twentieth century (Ladefoged, 1993).

It is indicated that phonemes could be further divided into smaller units known as features. A feature is “a phonetic property that can be used to classify sounds” (Ladefoged, 1993, p.42). So, a phoneme or segment is introduced as a bundle of phonological features needed to distinguish one segment from another. According to Mielke & Hume (2006), as cited in (Eisen, 2019, p. 77), phonological features refer to the abstract characteristics that delineate the distinctions between phonemes within a specific language. Linguists define sound in terms of distinctive features, which enable them to define sound classes (like vowels, consonants, nasals, stops, and so on), as well as to define relations between sounds (for instance, [p] and [b] differ in the feature voicing; so do [t] and [d], [k] and [g], and so on). These features enable us to characterize segment

inventories. Features satisfy the phonological requirement of expressing the structure and content of phoneme inventory (Clements 2003, 2009). Features also account for common phonological patterns across languages (Mielke, 2004).

The notion of phonological features is related to the notion of feature economy. A fundamental principle regulating a sound system's organization is the feature economy. For example, Clements (2003, p. 287) states that "Features used once in a system tend to be used again". Feature economy, applied to the study of phoneme inventory, provides strong evidence for the role of features in sound borrowing and helps to increase the number of segments while keeping the number of features constant by recombining existing features. Martinet (1968, p. 483), reported that, the feature economy could be motivated in terms of performance factors such as ease of articulation, increased perceptual distinctness, and speed of acquisition. Feature economy prefers sounds that are easy to articulate and easy to perceive. This means that feature combinations will be disfavored if the resulting sound cannot be easily distinguished from another sound in the system. Clements (2003, p.p. 296-297) shows that segments occur more frequently in inventories, with other segments requiring the same features (based on the UPSID database; Maddieson & Precoda, 1990). For example, /v/ is more frequent in inventories with at least one other labial consonant or voiced obstruent.

This predicts that a language tends to borrow phonemes or segments that use existing features. A particular feature in a language would facilitate the borrowing of other segments with that feature (Eisen, 2019, 95). So, a distinctive phonological feature plays a significant role in phonological segment borrowing, and filling the gaps in phonological inventories. Therefore, filling a gap means using those existing features to bring a new segment into being, thus increasing the number of phonemes

while maintaining the number of features constant. For instance, many languages have no sounds from the set [b, d, g], but if a language has one, it will likely have all of them. These sounds are all [+voice] having the full [b, d, g] set together in a language that maximizes the cross-classificatory effect of that distinctive feature.

8. Methodology

8.1 Data Collection

The data were collected from different sources: books, previous studies, media, and social networks. The data consist of 100 English loanwords. These loanwords included in particular one of the segments /p, g, v, ʧ/. These loanwords belong to different semantic fields such as fashion, food, computer parts, and vehicle parts. The informants in the study were (13) adults. The informants were Iraqi Mosuli speakers. Six of them were males and seven of them were females. The informants were of different ages and different educational backgrounds. The collected loanwords were elicited from the informants to ensure the occurrence of these loanwords in the Mosuli dialect. The informants were asked to pronounce these English loanwords in Mosuli form and their pronunciation was recoded while they were reading or pronouncing these words. The study involved asking specialists or academics in English language studies to produce these loanwords in their original source form, reflecting the pronunciation used by native speakers of the donor language. Furthermore, the informants' recorded pronunciation was transcribed using the IPA conventions to reveal the similarities and differences between the Mosuli form and the source form. This transcription also revealed how these loanwords were adopted and became a part of the MA system.

8.2 Contrastive Analysis Hypothesis

One method used in contrastive linguistics is the contrastive analysis hypothesis (CAH). It can be defined as a systematic description and comparison of linguistic elements chosen from different languages. Contrastive research can clearly show language similarities and contrasts.

Lado (1957), regarded as the father of contrastive linguistics, proposes a strategy that not only addresses grammatical issues but also phonetics and lexical levels (González et al. 2008: 205). Contrastive analysis studies the system of each language at several levels, such as phonetic, phonological, morphological, and syntactic levels.

Chitoran (1972, p.37) reported that contrastive linguistics is of two kinds: theory and practice. The first kind describes and compares languages and can serve as a good way to do contrastive analysis. The second kind belongs to “Applied Linguistics” and gives useful information for a certain purpose, like teaching. Contrastive analysis involves two main steps: describing and comparing languages. Description means the description of the linguistic structure of the source language and the target language. In contrast, comparison means comparing the linguistic structure of the languages to show similarities and differences between them (Chestermann, 1998, p. 52).

The focus of the current study is only on the sound system of the language, and it does not deal with other aspects such as word formation, sentence structure, and vocabulary. It intends to describe and compare the consonant sound systems (plosives, fricatives, and affricates in specific) of Standard Arabic (SA), MA, and English language. Using a contrastive analysis hypothesis is essential to provide a sufficient background about the consonant sounds of these languages and how MA differs from SA in having four more phonemes /p, g, ʧ, v/. It reveals the gaps in MA and SA consonant systems and how these gaps in the MA system are filled by the

adoption of these foreign phonemes and increasing the number of sounds (phonemes) in MA than in SA phonemes.

8.3 Feature Economy Principle

Clements (2003b) traces the idea of feature economy back to the linguists de Groot (1941) and Martinet (1955). Clements suggests that it is a fundamental rule of how sound systems are structured. It means that phonologies try to use as many segments as possible for each feature dimension.

The concept of feature economy was first proposed by the Dutch linguist de Groot. de Groot (1931, p. 121) indicates that there is a tendency to reuse some phoneme features multiple times; this can be called a tendency for economy. de Groot observed that consonant systems often use similar properties such as friction, labiality, dentality and velarity, nasality and orality, and voicing and voicelessness. In his later work, he identified feature economy as a principle that drives sound change. de Groot notices that a language tends to acquire new sounds in places where no existing sounds occur. These places are called ‘open spaces’ or ‘gaps’ (de Groot, 1949, p.192)

Martinet (1968, p.p. 480–485), further expanded the concept of feature economy. His key ideas are outlined for those who speak English. He initially discussed the economy gained by expressing language’s significant units through phonemes. The economy is realized when phonemes are formed from combinations of non-sequential phonetic features. Using features to describe phonemes is more efficient and economical than using distinct articulations for each phoneme. Martinet also suggests that features do not always combine freely, but only those combinations that best serve the needs of communication are preferred. This means that a potential feature combination will be disfavored if the resulting sound cannot be easily distinguished from another sound in the

system. Martinet proceeds that, it is challenging to produce fricative sounds with nasality because maintaining the necessary air pressure for fricative noise is difficult when air is also flowing through the nasal passage.

According to Clements (2003), the principle of feature economy—where languages tend to maximize the use of a minimal set of distinctive features—can be quantified by means of the economy index. This metric evaluates the degree to which a language efficiently exploits its phonological features to produce a diverse yet systematic phonemic inventory. The economy index (E) is calculated using the number of segments in an inventory (S) and the number of feature dimensions required to represent all the segments in the inventory (F).

E = S/F

Clements (2003, p.p. 289-291) explains that, a higher value of E signifies greater economy in the context of linguistic features. The concept of feature economy is essentially the inclination to maximize E. This can be accomplished by either augmenting the quantity of speech sounds (S) in the system or by reducing the number of features (F). Instead, it favors maximizing the number of phonemes that can be obtained by the free combination of a given set of features.

The Feature Economy predicts Mutual Attraction. This means that a speech sound will be more common in inventories where all of its features are distinctively present in other sounds. In other words, the presence of a feature in a speech sound increases the likelihood of that feature being present in other speech sounds in the same inventory (Clements, 2003, p.p.29-31). For instance, a voiced labial fricative /v/ is expected to be more common in systems that have other labial consonants such as /p, b, and f/. The presence of these sounds in a system increases the likelihood of the voiced labial fricative /v/ being present in the same system.

The other prediction tested by Clements (2003, p.p. 296-297) that a particular phonetic sound is more likely to occur in systems where its features are also present in other sounds. For example, the voiced labial fricative [v], characterized by the features [labial], [+voiced], and [+continuant], is prevalent in numerous languages. This type of sound is expected to be more common in systems where the features [labial], [+voiced], and [+continuant] are uniquely represented in other sounds. The economic index 'E' of a system only rises when a certain condition is met. If the sound 'v' is added to a system where its characteristics [labial], [+voiced], and [+continuant] are already uniquely present, the value of 'E' will always increase because the feature count stays the same.

While this study relies on traditional linguistic analysis, the findings could be enhanced through AI-based corpus analysis and speech recognition tools, which would allow for large-scale identification of borrowing patterns.

9. Data Analysis

9.1 Contrastive Analysis of Standard Arabic (SA), MA, and English

The present section provides analysis of the consonant systems (plosives, fricatives, and affricates) of the SA, MA, and English languages and shows the differences and similarities via utilizing the contrastive analysis hypothesis. It observes the gaps in the MA and SA consonant systems and how the gaps in the MA system are filled by the adoption of these foreign phonemes /p, v, g, tʃ/ from English. Furthermore, it reveals the impact of English loanwords on increasing the number of sounds (phonemes) and filling the gaps in MA.

9.1.1 The Consonant System of Standard Arabic

The Arabic language belongs to the Semitic family. Arabic is one of the most essential languages in the world. It is used throughout the Islamic world because it is the language of the Quran. It is the official

language in the Arabic world, extending from Iraq in the east to Mauritania in the west (Watson, 2011, p.1).

Standard Arabic has 28 consonants (including two semi-vowels) and six vowels (three short and three long vowels); they appear as different allophones, depending on the preceding consonant. The consonants are /ʔ/, /b/, /t/, /θ/, /ʤ/, /ħ/, /χ/, /d/, /ð/, /r/, /z/, /s/, /ʃ /, /ṣ/, /ḍ /, /ṭ /, /ð/, /ʕ/, /ɣ /, /f/, /q/, /k/, /l/, /m/, /n/, /h/, /w/, /y/. Arabic is rich in uvular, pharyngeal, and pharyngealised ("emphatic") sounds. The emphatic sounds are generally four and they include /ṣ/ ص ,/ḍ/ ض , / ṭ /ط and /ð/ ظ.

Table (1): Standard Arabic Consonant Phonemes (Obstruents) (Adopted from Sabir & Alsaeed, 2014, p. 186)

Place / Manner	Bilabial B	Labiodental L	Dental D	Alveo-dental A-d	Alveolar	Alveo-palatal P-A	Velar V	Uvula	Pharyngeal	Glottal
Stop	b			t d ṭ ḍ			k	q		ʔ
Fricative		f	θ ð ð		s z ṣ	ʃ		χ ɣ	ħ ʕ	h
Affricate						ʤ				

8.1.2 The Consonant System of MA

Mosuli Arabic is an Arabic dialect spoken by the people of Mosul in northern Iraq. It is a member of the West Semitic family. The Mosuli dialect is believed to have originated from the Bani Tamim Arab tribe, who settled in Iraq during the pre-Islamic era. Approximately two million people speak Mosuli Arabic in Mosul, and it differs from other dialects in Iraq in phonological, lexical, and grammatical terms (Sa'eed, 1998, p. 69).

MA uses a writing system similar to that of SA. MA consonant sounds can be classified using the three-term label used to classify consonants in other languages: place of articulation, manner of articulation, and voicing (Amer, 2001, p. 5). MA has thirty-one consonant phonemes (/ʔ/, /b/, /p/, /t/, / θ/, /ʧ/, /ʤ/, /ħ/, /ṭ /, /d/, /k/, / g /, /q/, /f/, /v/, / ð/, / ð/, /s/, / ṣ /, /z/, / ʃ/, / χ /, / ɣ /, /ʕ/, /h/, /m/, /n/, /l/, /r/, w/, and /j/) (Rahim and Fajro, 1985: 57).

Table (2): Mosuli Arabic Consonant Phonemes (Obstruents) (Rahim and Fajro, 1985: 83).

Place / Manner	Bilabial	Labiodental	Dental	Alveo-dental	Alveolar	Alveo-palatal	velar	Uvula	Pharyngeal	glottal
Stop	p b			t d ṭ			k g			ʔ
Fricative		f v	θ ð ð		s z ṣ	ʃ		χ ɣ	ħ ʕ	h
Affricate						ʧ ʤ				

8.1.3 The Consonant System of Standard English

English, a member of the West Germanic group within the Indo-European language family (Watson, 2011, p. 1), is the most commonly spoken language worldwide. It is used across six continents by over 350 million individuals (Ashour, 2017, p.p. 132, 133). The English accent chosen for this study is referred to as Received Pronunciation (RP) or BBC

Pronunciation. It is the accent that is most frequently recommended for non-native speakers studying British English and is the accent that has been most extensively described and used as the foundation for pronunciation dictionaries (Roach, 2009, p.p. 3-4).

RP English consists of 26 letters, which are split into 21 consonants and five vowels. English has nine fricatives (/f/, /v/, /θ/, /ð/, /s/, /z/, / ʃ/, /ʒ/, and /h/), six plosives (/p/, /b/, /t/, /d/, k/, and / g /), two affricates (/ ʧ/, and / ʤ/), three nasals (/m/, /n/, and /ŋ/), two liquids (/l/ and /r/) and two semi-vowels (/j/ and /w/).

Table (3): English Consonant Phonemes (Obstruents) (adopted from Roach, 2009)

Place / Manner	Bilabial	Labio-dental	Dental	Alveolar	Palato-alveolar	Velar	Glottal
Stop	p b			t d		k g	
Fricative		f v	θ ð	s z	ʃ ʒ		h
Affricate					tʃ dʒ		

The IPA charts of consonant systems of these languages reveal that MA differs from SA in a number of consonants it has, although MA is an Arabic dialect. MA has four consonants /p/, / g /, /ʧ/, and /v/ which SA does not have (lacks). This explanation of the similarity between MA and the English language will be supported by the idea that MA has contacted with English language and borrowed many words which include the consonant sounds /p/, / g /, /ʧ/, and /v/. So, one may assume that borrowing words without modification in pronunciation leads to importing or borrowing these foreign phonemes. It can be claimed that MA speakers pronounce these foreign phonemes /p/, / g /, /ʧ/, and /v/ without facing any challenge and without modification in pronunciation. This analysis paves

the way to analyze the role of phonetic features in sound borrowing and represent the process of sound borrowing via using phonetic features.

9.2 Analysis in Terms of the Feature Economy Principle

The feature economy principle can be applied to explain how and why certain phonemes are borrowed from English into MA. The feature economy principle suggests that languages tend to maximize the ratio of sounds over features (de Groot, 1931, p.121; Martinet,1968, p.p. 480–485; and Clements, 2003, p.p.296-297). This means that languages prefer to have a diverse set of sounds that can be described with a minimal set of distinctive features. When a sound is borrowed from one language to another, it is often because that sound can be described by using features that are already present in the other sounds in the borrowing language, thus adhering to the feature economy principle.

The economy index (E) is a way of measuring how a language is economical in using its phonemic features (Clements, 2003, p.p. 289-291). It is calculated by dividing the number of phonemes (S) in the MA consonant system (plosives, fricatives, or affricates in specific) by the number of feature dimensions (F) required to represent the phonemes in plosive, fricative, or affricate system.

So, the economy index is calculated before and after adopting the foreign phonemes / p, g, v, tʃ / to reveal the difference in the value of economy (E) before and after adopting and the effect of the adoption on the language or dialect consonant inventory.

9.2.1 The Plosive System

Mosuli Arabic and English Plosives

English Plosives			**Mosuli Arabic Plosives**					
P	t	k	○	t	ṭ	k	q	ʔ
b	d	g	b	d	○			

Comparing the plosive systems of MA and English before adoption, it is noticed that the plosive system of MA lacks the phonemes /p/ and /g/ which exist in the English plosive system. The MA plosive system can be regarded as uneconomical, because it includes gaps at the position of these phonemes /p, g/ which can form counterparts with other phonemes already part of the MA plosive system, viz. /b/ and /k/ respectively. Since, MA borrowed or imported many English words and these loanwords include one of these phonemes /p/ and /g/. By using features which already exist in the MA system and are similar to the features of the foreign phonemes /p/ and / g/ to enable adopting these foreign phonemes /p/ and /g/.

I. Adoption of the Plosive Phoneme /p/

The features of the foreign phoneme /p/—obstruent (plosive), bilabial, and [−voice]—are already present in the Modern Arabic (MA) plosive system. The analysis reveals that the foreign phoneme /p/ shares with MA plosives the same place and manner of articulation, as well as a voicing contrast (±voice). Since the features obstruent (stop) and bilabial are characteristic of the MA phoneme /b/, and the feature [−voice] is characteristic of the MA phoneme /k/, the MA consonantal system effectively utilizes the features of /b/ and /k/, which correspond to those of the borrowed phoneme /p/. This feature overlap facilitates the incorporation of the foreign sound, thereby filling phonological gaps in the inventory and enhancing the overall economy of the system. According to Clements (2003), feature economy can be calculated by dividing the number of sounds by the number of features:

$$E = \frac{S}{F}$$

Before the adoption of the foreign phoneme /p/, the feature economy index was calculated. The number of sounds in the relevant segmental set is seven (7), while the number of features required to represent these sounds (*obstruent, bilabial*, and –voice) remains constant at three (3).

$$E = \frac{7}{3} = 2.3$$

The value of the feature economy index before adopting the phoneme /p/ is (2.3)

After the incorporation of the foreign phoneme /p/, the feature economy index was recalculated. The results indicate that the total number of sounds increased by one, reaching eight (8), whereas the number of features employed to represent the new phoneme (obstruent, bilabial, and −voice) remained constant at three (3).

$$E = \frac{8}{3} = 2.6$$

By comparing the two values of the economy index before adopting the /p/ phoneme, which is (2.3), and after adopting the phoneme /p/, which is (2.6), the results proved that the value of the economy is high after adopting the foreign phoneme, via increasing the number of phonemes while the number of features stay constant or stable. Also, the MA plosive system becomes more economical by filling the gaps in the system.

II. Adoption of the Plosive Phoneme / g/

The features of the / g / phoneme are obstruent, velar, and +voice and these features already exist in MA plosive system. It is revealed that the foreign phoneme / g / is similar to the MA plosives in place of articulation, and manner of articulation and (∓ voice). Since, the features obstruent (stop) and velar are already the features of the MA phoneme /k/, and the feature (+voice) is already the feature of the MA phoneme /b/. So, the MA consonant system utilizes the features of the phonemes /k/ and /b/ which are similar to the features of foreign phoneme / g /. These features facilitate the adoption of foreign phonemes, filling the inventory gaps and making the system more economical.

The value of the feature economy index before adopting the foreign phoneme / g / was calculated. Thus, the number of sounds (S) is (7), and

the number of features that are used in the adoption process are (3) features (obstruent (stop), velar, and (+ voice)

$$E = \frac{7}{3} = 2.3$$

Calculating the value of the feature economy index after adopting the foreign phoneme / g /reveals that the number of the sounds is increased by one and become (8), and the number of features that are used in the adoption process are (3) features (obstruent (stop), velar, and (+ voice)

$$E = \frac{8}{3} = 2.6$$

The value of the feature index after adopting the (g) segment is **(2.6)**

The economy index of the plosive system of the MA before adoption of the phonemes /p/ and / g/ shows that the number of sounds (S) is (7) and the number of features that are used in the adoption process are (4) features (obstruent (stop), bilabial, velar, and (∓ voice))

$$E = \frac{S}{F}$$

$E = \frac{7}{4} = 1.7$ The value of the feature economy index before adopting the phonemes /p/ and / g / is (1.7)

Following the incorporation of the phonemes /g/ and /p/, the economy index of the MA plosive system was recalculated. The analysis reveals that the total number of sounds increased by two, resulting in nine (9) phonemes, while the number of features utilized in the adoption process increased to four (4): *obstruent (stop)*, *bilabial*, *velar*, and (±voice).

$$E = \frac{9}{4} = 2.2$$

Taking both cases after and before the adoption, it is revealed that the value of the economy index of the plosive system increases more and becomes high after the adoption of the two sounds. The gaps in the system are filled and the system becomes more economical. So, the features played

a crucial role in the adoption process and in facilitating this adoption.

The Plosive System of MA after Adopting the Phonemes /g/ and /p/

p	t	ṭ	k	q	ʔ
b	d		**g**		

9.2.2 The Fricative Systems

Mosuli Arabic and English Fricatives

English Fricative System					**Mosuli Fricative System**							
f	θ	s	ʃ	h	f	θ		s	ṣ	ʃ	χ	ħ	h
v	ð	z	ʒ		◯	ð	ð	z			ɣ	ʕ	

Comparing the fricative systems of MA and English, it is noticed that the fricative system of MA lacks the phoneme /v/ which exists in English. The MA fricative system can be regarded as uneconomical, because it includes a gap at the position of the phoneme /v/ which can form a counterpart with another phoneme already part of the MA fricative system, viz. /f/. MA has borrowed or imported many English words which include the phoneme /v/, by using features that already exist in the MA system which are similar to the features of the foreign phoneme /v/ to enable adopting the foreign phoneme /v/.

The features of the foreign phoneme /v/ which are obstruent (fricative), labio-dental, and (+voice) are the features included in the MA fricative system. It is revealed that the foreign phoneme /v/ is similar to the MA fricatives in place of articulation, and manner of articulation and (∓ voice). Since, the features obstruent (fricative) and labio-dental are already the features of the MA phoneme /f/, and the feature (+voice) is already the feature of the MA phoneme /z/. So, the MA consonant system utilizes the features of the phonemes /f/ and /z/ which are similar to the features of foreign phoneme /v/. These features facilitate the adoption of the foreign sound /v/, filling the inventory gaps and making the system more

economical. Feature economy is calculated by dividing the number of sounds by the number of features.

Calculating the feature economy of MA fricative before adopting of the foreign phoneme /v/ shows that the number of sounds (S) is (13) and the number of features that are used in the adopting process are (3) features (obstruent (fricative), labio-dental, and (+ voice)

The economy index before adopting the phoneme /v /

$$E = \frac{13}{3} = 4.3$$

The value of the economy index before adopting the phoneme /v/ is 4.3

Calculating the feature economy of MA fricatives after adopting the foreign phoneme /v/ reveales that the number of phonemes is increased by one which becomes (14) and the number of features stay stable without change which are (3).

$$E = \frac{14}{3} = 4.6$$

The value of the economy index after adopting the phoneme /v/ is 4.6

The Fricative System of MA after Adopting the Phoneme (v)

Mosuli Fricative System

f	θ		s	ṣ	ʃ	χ	ħ	h
v	ð	ð	z			ɣ	ʕ	

By comparing the two values of the economy index before adopting the /v/ phoneme which is (4.3) and after adopting the phoneme /v/ which is (4.6), the results prove that the value of the economy is high after the adoption process by increasing the number of segments while the number of features stays constant or stable. Also, the system becomes more economical by filling the gaps in the system.

9.2.3 The Affricate Systems

Mosuli Arabic and English Affricates

English Affricates		**Mosuli Affricates**	
ʧ	ʤ	◯	ʤ

Comparing the affricate systems of MA and English, it is noticed that the affricate system of MA lacks the phoneme / ʧ / which exists in the English affricate system. The MA affricate system can be regarded as uneconomical, because it includes a gap at the position of the phoneme / ʧ / which can form a counterpart with another phonemes already part of the MA affricate system, viz. / ʤ/. MA borrowed or imported many English words which include the phoneme / ʤ/. By using features that already exist in the MA system which are similar to the features of the foreign phoneme / ʧ / to enable adopting this foreign phoneme / ʧ /.

Comparing the features of the foreign phoneme / ʧ / which are obstruent (affricate), palato-alveolar, and [-voice] with the features included in the MA affricate system, it is revealed that the foreign phoneme / ʧ / is similar to the MA affricate in place of articulation, and manner of articulation. Since the features obstruent (affricate) and palate-alveolar are already the features of MA phoneme / ʤ /. The MA consonant system utilise the features of the phoneme / ʤ / which are similar to the features of the foreign phoneme / ʧ /. These features facilitate the adoption of the foreign sound, filling the inventory gaps and making the system more economical. Feature economy is calculated by dividing the number of sounds by the number of features.

In the affricate system of the MA, the number of sounds (S) is (1) and the number of features that are used in the adoption process are (2) features (obstruent (affricate), and palate-alveolar.

The economy index before adopting the phoneme / ʧ /

$$E = \frac{1}{2} = 0.5$$

The value of the economy index before adopting the phoneme /ʧ/ is 0.5

Calculating the feature economy of the inventory after adopting the foreign phoneme /ʧ/, the number of sounds is increased by one which becomes (2) and the number of features stays constant or stable without change which is (2).

$$E = \frac{2}{2} = 1$$

The value of the economy index after adopting the phoneme /ʧ/ is 1

The Affricate System of MA after Adopting the Phoneme /ʧ/

Mosuli Affricate System

ʧ ʤ

By comparing the two values of the economy index before adopting the /ʧ/ phoneme which is (0.5) and after adopting it which is (1), the results prove that the value of the economy is high after adopting the foreign sound by increasing the number of sounds while the number of features stays constant. Also, the system becomes more economical by filling the gap in the system.

It is crucial to prove that the process of sound borrowing is systematic not random. The foreign phonemes borrowed via utilizing phonetic features in MA system. These features combined in accepted way to adopt these phonemes. For instance: the features (obstruent, bilabial, and –voice) are combined which are the features of /p/ sound to adopt it. This combination is accepted in MA system. Since, not all phonetic feature combinations are acceptable in MA phonemic system. So, sound borrowing in MA is systematic not random process. Each language has a system that resists the unacceptable changes.

10. Discussion

The results confirm the hypotheses of the study. Phonological asymmetry and structural gaps played a crucial role in motivating the borrowing process, while distinctive phonetic features guided the selection and integration of new phonemes. In this way, the asymmetric inventory of MA was transformed into a more symmetrical system, with borrowed sounds strategically filling previously unoccupied positions.

The adopted phonemes via loanwords can be regarded as phonemes not allophones in MA consonant system. They establish counterpart in relation to other phonemes in MA consonant system. It is clear from the plosive, fricative, and affricate systems after adoption that the voiceless bilabial plosive phoneme /p/ becomes or made a counterpart (opposition) with the voiced bilabial plosive phoneme /b/ or other phonemes. The voiceless palato-alveolar affricate /tʃ/ is made a counterpart (opposition) with the voiced palato-alveolar affricate /dʒ/ or other phoneme, the voiced velar plosive / g / is made a counterpart (opposition) with the voiceless plosive /k/ or other phoneme, and the voiced labio-dental fricative /v/ is made a counterpart (opposition) with the voiceless labio-dental fricative /f/ or other phoneme, meaning that they fill the gaps and make the system symmetrical and more balanced. They can create lexical contrast with other phonemes in MA consonant system. So, the adopted phoneme is contrastive, meaning that it can distinguish the meaning of words in MA dialect. For instance: the phonemes /p, v, g, tʃ/ are contrastive, because they can distinguish the meaning of loanwords and MA words, in other word, they can create minimal pairs as illustrated in Table (4) below:

Table (4): The Contrasted Phonemes

The Contrasted Phonemes	Loanwords	Glossary	Mosuli Words	Glossary
p / b	/pi:ra/	cunning woman	/bi:ra/	Beer
v / f	/ sajv/	Save	/sajf/	Male name
tʃ / f	/tʃa:t/	Chat	/ fa:t/	It has gone
g / q	/ bag/	Back	/baq/	Mosquito

11. Conclusions

This study has shown that MA borrowed the consonant sounds /p, v, g, and tʃ/, which were absent from its native consonant inventory. Through lexical borrowing, these foreign phonemes were integrated into the MA system, thereby expanding and reshaping its phonemic structure. This finding demonstrates the influence of English on the MA consonant system and provides clear evidence that borrowing occurs as a response to phonological gaps.

Importantly, the study shows that borrowing in MA is not arbitrary but systematic. Not every foreign sound is integrated; rather, the process is constrained by the internal logic of the MA phonological system, which resists changes that are incompatible with its structural principles. Thus, borrowing emerges not merely as a lexical phenomenon, but as a mechanism of phonological enrichment shaped by the interaction of phonetic features and systemic gaps.

This study not only advances our understanding of MA phonology but also contributes to sustainable language development by providing data that can be integrated into AI-based language processing and preservation tools. The findings of this study contribute to loanword phonology by demonstrating how structural necessity and phonological asymmetry motivate borrowing, rather than simple adaptation. For Arabic dialectology, the study provides evidence that English contact has introduced new

phonemes into MA, reflecting broader patterns of interaction between global and local linguistic systems. On a socio-linguistic level, these results highlight how phoneme borrowing intersects with **identity and authenticity (IA)**: while borrowing enriches the phonemic system, it also raises questions about how much external influence a dialect can absorb while retaining its distinct identity. At the same time, the systematic nature of borrowing suggests a form of **linguistic sustainability**, where the MA phonological system selectively integrates external elements to maintain internal coherence, balance, and long-term resilience.

References

Amani, H. (2010). The Outcome of Language Contact in Chimalaba: The Role of Structural Borrowing in Language Change. Tanzania Public Service College (TPSC).

Ashour, H. M. (2017). Major Differences between Arabic and English Pronunciation Systems: A Contrastive Study. AIJLLS, 1(1).

Chestermann, A. (1998). Contrastive Functional Analysis. Benjamins.

Chitoran, D. (1972). The Romanian English contrastive. In AILA 3rd Congress, Copenhagen Proceedings (Vol. 1).

Clements, G. N. (2003). Feature Economy in Sound Systems. Phonology, 20(3), 287–333. Available at: https://doi.org/10.1017/S095267570400003X

———. (2009). The role of features in speech sound inventories. In E. Raimy & C. Cairns (Eds.), Contemporary views on architecture and representations in phonology (pp. 19-68). MIT Press.

de Groot, A. W. (1931). Phonologie und Phonetik als Funktionswissenschaften. Travaux du Cercle Linguistique de Prague, 4, 116–147.

———. (1949). Structural linguistics and phonetic law. Lingua, 1, 175–208. (Reprinted from Archives Neerlandaises de Phonetique Experimentale, 17, 71–106, 1941).

Eisen, E. (2019). The typology of phonological segment borrowing (Master's thesis). Hebrew University of Jerusalem.

González, M. Á. G., Mackenzie, J. L., & Álvarez, E. M. G. (Eds.). (2008). Current trends in contrastive linguistics: Functional and cognitive perspectives. John Benjamins Publishing Company.

Ladefoged, P. (1993). A course in phonetics. Orlando: Harcourt Brace.

Lado, R. (1957). Linguistics across cultures: Applied linguistics for language teachers. University of Michigan Press.

Maddieson, I. (1985). Borrowed sounds. UCLA Working Papers in Phonetics, 61(1), 51–64.

Maddieson, I. (1986). Borrowed Sounds. In The Fergusonian Impact, Volume 1; From Phonology to Society. Mouton de Gruyter, Berlin: 16pp.

Maddieson, I. and Precoda, K. (1990). Updating UPSID. In UCLA Working Papers in Phonetics, 104–111. Department of Linguistics, UCLA.

Martinet, A. (1968). Phonetics and linguistic evolution. In B. Malmberg (Ed.), Manual of phonetics (pp. 464–487). North-Holland.

Matras, Y. (2007a). The borrowability of structural categories. In Y. Matras & J. Sakel (Eds.), Grammatical borrowing in cross-linguistic perspective (Vol. 38 of Empirical Approaches to Language Typology [EALT], pp. 31–73). Mouton de Gruyter.

————. (2007b). Grammatical borrowing in Domari. In Y. Matras & J. Sakel (Eds.), Grammatical borrowing in cross-linguistic perspective (pp. 152–164). Mouton de Gruyter.

————. (2009). Language contact. In Chapter 8: Grammatical and phonological borrowing (pp. 193–233). Cambridge University Press.

Mielke, J. (2004). The emergence of distinctive features. (Doctoral dissertation). Ohio State University, Columbus, OH.

Nikolaev, D. (2022). "A typology of consonant-inventory gaps" Linguistic Typology, vol. 26, no. 1, pp. 161-186. Available at:

https://doi.org/10.1515/lingty-2020-0128

Rahim, A. J. and S. A. Farjo (1985). A functional Phonematic Analysis of the Consonants of Spoken Mosuli Arabic. AL- Mustansirya Literary Review: 11 (26) 50- 84.

Roach, P. (2009). English phonetics and phonology: A practical course, 4th ed. Cambridge: Cambridge University Press.

Robins, R. H. (1970). General Linguistics. London: Longman Linguistic Library.

Sa'eed, A. H. (1998). The Phonological Adaptation of English Loanwords in Mosul Arabic. (Unpublished MA Thesis), University of Mosul.

Sabir, I. & Alsaeed, N. (2014). A Brief Description of Consonants in Modern Standard Arabic. Linguistics and Literature Studies, 2(7), 185–189. Available at: https://doi.org/10.13189/LLS.2014.020702

Thomason, S. G., & Kaufman, T. (1988). Language contact, Creolization and Genetic Linguistics. Berkeley: University of California Press.

Watson, J. C. E. (2011). Word Stress in Arabic. In M. Van Oostendorp, C. Ewen, E. Hume & K. Rice (Eds.), The Blackwell Companion to Phonology. (pp. 2990-2918). Malden, MA & Oxford: Wiley- Blackwell.

Weinreich, U. (1953). Languages in contact: Findings and problems. Mouton.

Winford, D. (2003). An Introduction to Contact Linguistics. Malden, MA: Blackwell.

Appendix

List of English Loanwords in Mosuli Arabic Analysed in the Study

	English Words	English Form	Mosuli Form
1.	Ampere	/æmpɪər/	/ampe:r/
2.	Aspirin	/æsprɪn/	/ʔaspiri:n/
3.	Back	/bæk/	/bag/
4.	Backlight	/bæklaɪt/	/bagla:j:t/
5.	Baking powder	/beɪkɪŋpaʊdə/	/pe:kimpa:wdir/
6.	Bank	/bæŋk/	/baŋg / /baŋk/
7.	Bicycle	baɪsɪkəl	/pa:jsigil/
8.	Captain	/ˈkæptɪn/	/ka:ptin/
9.	Caravan	/kærəvæn/	/karava:n/
10.	Chance	/tʃa:ns/	/tʃa:ns/
11.	Chat	/tʃæt/	/tʃat/
12.	Clutch	/klʌtʃ/	/kletʃ/
13.	Congress	/kɒŋgres/	/kongres/
14.	Copy	/kɒpi/	/ko:pi/
15.	Couple	/kʌpl̩/	/kapel/
16.	Cover	/ˈkʌvə/	/kavar/
17.	Delivery	/dɪlɪvəri/	/dilivari/
18.	Dove	/dʌv/	/do:v/
19.	Gage	/geɪdʒ/	/ge: dʒ/
20.	Galaxy	/gæləksi/	/galaksi/
21.	Gallon	/gælən/	/galan/
22.	Game	/geɪm/	/ge:m/
23.	Garage	/ gæra:ʒ /	/gara:dʒ/

24.	Gardenia	/gaːdiːnɪə/	/gaːrdiːnja/
25.	Gas	/gæs/	/gaːz/
26.	Gear	/gɪə/	/giːr/
27.	Geyser	/giːzə/	/giːzar/
28.	Gigabyte	/gɪgəbaɪt/	/gegabajet/
29.	Glass	/glɑːs/	/glaːs/
30.	Go	/gəʊ/	/goː/
31.	Goal	/gəʊl/	/goːl/
32.	Good	/gʊd/	/god/
33.	Google	/guːgl/	/goːgl/
34.	Grease	/greːz/	/greːz / /greːs/
35.	Group	/gruːp/	/groːb/
36.	guarantee	/gærənti:/	/garanti:/
37.	Guitar	/gɪˈtɑː /	/giːtar/
38.	Hamburger	/hæmbɜːgə/	/hamburger/
39.	Ipad	/aɪpæd/	/ʔjpaːd/
40.	Ketchup	/ketʃʌp/	/katʃap/
41.	Laptop	/læptɒp/	/laptop/
42.	Mango	/mæŋgəʊ/	/mango/
43.	Microwave	/maɪkrəweɪv/	/makroːweːv/
44.	Oven	/ʌv.ən/	/ʔoːvin/
45.	Over	/ˈəʊ.və/	/ʔoːver/
46.	Packet	/pækɪt/	/paːkiːt/
47.	Panadol	panədɒl	/banadoːl/ banadoːl
48.	Panda	/pændə/	/panda/
49.	Parachute	/pærəʃuːt/	/paraʃuːt/
50.	Park	/paːk/	/park/
51.	Parliament	/pɑː.lɪ.mənt/	/parlaman/

52.	password	/ˈpɑːswɜːd/	/paswo:rd / /pa:swo:rd/
53.	Paste	/peɪst/	/pest/
54.	Penicillin	/penɪsɪlɪn/	/pansile:n / /pa:nsali:n/
55.	Piano	/piænəʊ/	/pjano:/
56.	Piston	/pɪstən/	/pistin/
57.	Pizza	/piːtsə/	/pitza/
58.	Plaster	/plaːstə/	/plastar/
59.	Plastic	/plæstɪk/	/pla:sti:k/ /pla:stik/
60.	Platinum	/plætɪnəm/	/pla:ti:n/
61.	Pliers	/plaɪəz/	/pla:jis / /pla:jiz/
62.	Plug	/plʌg/	/plak/
63.	Post	/pəʊst/	/po:st/
64.	Poster	/ˈpəʊstə/	/po:star/
65.	Power	/paʊə/	/pawar/
66.	Presentation	/prezənteɪʃən/	/prisinte:ʃin/
67.	Prestige	/presˈtiːʒ/	/pristi:dʒ/
68.	Primer	/praɪmə/	/prajmar/
69.	Primus	/priːmus/	/pre:miz/
70.	Professor	/prəfesər/	/pro:fi:so:r/
71.	Profile	/prəʊfaɪl/	/pro:fajil/
72.	Protein	/prəʊtiːn/	/pro:ti:n/
73.	Pump	/pʌmp/	/pam/
74.	Puncture	/pʌŋktʃər/	/pan tʃar/
75.	Sandwich	/sænwɪdʒ/	/sandawi:tʃ/
76.	Seven up	/sevən ʌp/	/sevena:p/
77.	Silver	/sɪl.və/	/selvar/

78.	Sink	/sɪŋk/	/siŋg/ /siŋk/
79.	Slipper	/slɪpə/	/slipar/
80.	Soup	/suːp/	/so:p/
81.	Spaghetti	/spəˈgeti/	/spakiti/
82.	Spanner	/spænə/	/spa:na/
83.	Spare	/speə/	/spe:r/
84.	Spring	/sprɪŋ/	/sipriŋg/
85.	Superman	/suːpəmæn/	/su:parman/
86.	Supermarket	/suːpəmaːkɪt/	/su:parma:rkit/
87.	Switch	/ swɪtʃ /	/swi:tʃ/
88.	Tape	/teɪp/	/ti:p / /ti:b/
89.	Telegram	/telɪgræm/	/tiligra:m/
90.	Valium	/væliəm/	/va:ljo:m/
91.	Vanilla	/vənɪlæ/	/va:nilla/
92.	Vaseline	/væsəliːn/	/vazili:n / /va:zali:n/
93.	Video	/vɪdiəʊ/	/vidjo:/ / vi:djo:/
94.	Villa	/vɪlə/	/villa/
95.	Virus	/vaɪərəs/	/va:jro:s/
96.	Visa	/viːzə/	/vi:za/
97.	Vitamin	/vɪtəmɪn/	/vi:tamin:n/
98.	Volt	/vɒlt/	/vo:lţ/
99.	Winch	/wɪntʃ/	/wintʃ/
100.	Zigzag	/zɪgzæg/	/ zigza:g//