Morphophonemics of Loan- words in Translation

Dr.Jamal B.S.Al –Qinai[*]

Abstract

A natural by-product of translation is the adoption of technical, scientific and culture–specific terms for which ready–made equivalents are either unavailable or unpopular. The infiltration of loan-words into standard Arabic is a landmark of the flexibility of Arabic morphology.Yet, the methods of analyzing assimilated (i. e. Arabicized) loan-words often assumed an impressionistic arbitrary nature.The current study attempts to linguistically diagnose and provide a typology for classifying any systematic phonological and morphological changes while also accounting for anomalies. The study adopts a comparative morphophonemic approach to SL/TL forms in view of lexical etymology and the methodology of classical philology and modern linguistics.

«A pure language is a poor language »

INTRODUCTION:

A natural by-product of translation is the adoption of technical, scientific and culture–specific terms for which ready–made equivalents are either unavailable or unpopular. The process whereby a particular language incorporates in its vocabulary words from another language is technically designated by such terms as «borrowing», «loaning» or «adoption», though the latter is usually the case[1].

The study analyses a corpus of loanwords in Arabic with the aim of investigating the phonological and morphological adaptations that are applied to the incoming lexical items .The term «adaptation» as Holden explains, refers to the process in the recipient language of alterning the phonological (and at times the morphological) make–up of the loanword[2].«Adoption», on the other hand, is a term that describes the assimilation into the recipient language of loanword while perserving their original form and pronunciation as per the donor language[3]. In Arabic, some loanwords are fully–naturalized and thus become the roots for further derivations. Others, however, remain foreign or partially translated.

1.THE CONCEPT OF 'ARABICIZATION' AND THE STATUS OF LOANWORDS :

Arabicization is a process whereby foreign words are incorporated into the language usually with phonological or morphological modifications so as to be congruent with the Arabic phonological and morphological paradigms, hence the term«analogical Arabicization».Yet, whereas Sibawayh (author of al-Kitāb) and al-Jawaliqi (author of al-Mu'arrab) recognize all foreign vocabulary used by the Arabs however distant from Arabic moulds some of it might be, al-Harīrī and al-Zamakhsharī advocated that loanwords which violate Arabic patterns degenerate the language[4]. Al-Harīrī, for example, includes in his treatise on solecism a number of borrowings which are in breach of Arabic patterns[5].

Non-analogical		Analogical		Native word as a mould
Loanform	pattern	Loanword	pattern	
هاوَن	فاعَل	هاوون	فاعول	فاروق
دَستور	فعول	دُستور	فعول	بهلول'Jester'
سَرداب	فعلال	سرداب	فعول	سربال'garment'

Non-analogical patterns of loanwords

The definition of Arabicization التعريب, has always been a matter of controversy among Arab philologists particulary with regard to the status of the borrowed word and the parameters that apply in the

[*]Department of English Language and Literature
Faculty of Arts – Kuwait University

naturalization process of foreign vocabulary.

To begin with, ancient philologists used a multitude of different labels to refer to foreign vocabulary in Arabic. Al hamzaoui الحمزاوي cites the word الغريب as used by Ibn Abbas ابن عباس in his book Gharibal qoran غريب القرآن Abou abayda أبو عبيدة in مجاز القرآن and Assoyyouti السيوطي in Al Itqan fi olum al qoran الإتقان في علوم القرآن. Similarly, the label ما أعرب was used by Sibawayh سيبويه in Al kitab الكتاب, Al jawaliki الجواليقي in Al Moarrab mina lkalam alajnabi المعرب من الكلام الأعجمي and Ibn Jinni ابن جني in Al khassaiss الخصائص. The latter two also used the terms Addakhil الدخيل and Al aajami الأعجمي. In fact, the word Addakhil الدخيل was used by Al khafaji الخفاجي in the title of his book Chifaô al ghalil fima fil arabia min dakhil شفاء الغليل فيما في العربية من دخيل.One may also read such words as Al moarrab المعرّب or attaarib التعريب in Assihah الصحاح by Al Jawhari الجوهري and both in Al mozhir المزهر and Al mohaddab fima waqaa filqoran mina lmoarrab المهذب فيما وقع في القرآن من المعرب by Assoyouti السيوطي. Finally,Al khalil bno ahmed الخليل بن أحمد in Al ayn العين employs various labels such as Al mobtadaâ المبتدع , al moyallad المولد and Addakhil الدخيل.

Despite the use of different names in labeling loanwords, there was one common ground in classifying foreign vocabulary in Arabic under two categories :Moarrabât معرّبات and Moalladât مولدات. Roughly speaking, معربات "Arabicized or fully-assimilated loanwords are those words which were adopted before the middle of the second century A.H. or what is commonly known as 'Asr al ihtijaj عصر الاحتجاج 'the authoritative age', while مولدات 'neologisms' is used to designate words that were borrowed thereafter.

Assouyouti السيوطي defines Almoallad المولد as any word which was introduced by the non-indigenous who were not an authoritative source on language particularly after the second century A.H.[7] However,Mohamed al amine al mohibbi محمد الأمين المحبي considers as moalladat مولدات all words that were changed by the populace in their original sounds or vowels (irrespective of any given date)[8]. Finally,the contemporary عبد القادر المغربي designates as مولد any word that was unknown to Arab philologists[9].Within this framework, the definition of مولدات is left wide open to encompass both words that were borrowed after «the authoritative age» عصر الاحتجاج until now, and any other native words that were subjected to changes in pronunciation or otherwise.

In شفاء الغليل, الخفاجي cites as مولدات some common words that have a high frequency of usage. For example,مقامة «poetry session»,تشويش «disturbance»,الحذق «dexterity», ماهية «essence»,فذلكة «abstract», بطاقة «card » and جريدة «newspaper» are مولدات either by way of being borrowed from languages or for having no « classical» origin (i. e. no previous authoritative citation by the eloquent speakers of Arabic[10]).

Recently, the Egyptian language Academy set down its own definition of المولد. To quote, المولد is a word used by المولدون«the non-indigenous» in a way contrary to that of the Arabs.Those words which fall in line with the canons of Arabic are deemed acceptable, whereas those corrupted or improvised words which infringe them are not sanctioned by the Academy to be used in pure (i.e. classical) Arabic.[11] »

With regard to methodology, Eid propounds that Arabicization is, by and large, sanctioned by

common usage and does not follow any rigid analogical rules. While early philologists were busy at work in their attempt to lay the canons for the process of Arabicizations by describing the already-assimilated words, their ultimate goal was to formulate rules that were in line with Arabic morphological patterns. Such rules were, however, vulnerable to exceptions[12]. This could be accounted for by the fact that their data was in itself inconsistent and marred with anomalies. They were simply applying rules of Classical Arabic morphology on foreign lexical items that have their own rules in their source language(s). Important in this context is Yowell Aziz's view on the application of ancient methods of transliteration :

« ... the ancient Arabic writer was not always consistent in his (transliteration) methods. Some of the ancient practices are no longer suitable...[13]»

In a nutshell, those who undertook the task of translating foreign books into Arabic or those who came into contact with speakers of other languages had no preset rules for Arabicizing foreign words. The transliterated form of a given loanword was, thus, in concordance with their best knowledge of its pronunciation[14]. At times, they were not adequately fluent in the source language, and, therefore, the transliteration form of a given loanword may be the end product of a mispronunciation rather than any real phonological or morphological modifications.

2. TYPES OF PHONOLOGICAL AND MORPHOLOGICAL CHANGES IN LOANWORDS :

This section purports to examine any systematic segmental or suprasegmental alterations in loanwords. The aim is to determine whether such changes are rule-governed in view of the canons of Arabic phonology and morphology. Changes may range from assimilation, dissimilation, metathesis, elision to doubling or replacing one or more segments of the original. In his book al-Kitab, Sibawayh remarks that(the Arabs),

« ....Often change the condition or a word from what it was in the foreign language by assimilating to Arabic those letters which are not Arabic and replacing a letter though it occurs in Arabic by another one. Furthermore, they change the vocalization and position of augmentative letters without attaining the Arabic word structure for, after all , it is a word of foreign origin whose power to attain the Arabic word structure is in their view not sufficient. Frequently, they shorten as in the « nisbah » construction or add whereby they either attain the Arabic structure or not, as in the case of آجر إبراهيم إبريسم إسماعيل سراويل فيروز and كهرمان. Often they leave a noun unchanged when its letters are like theirs, be its structure Arabic or not as in the case of خرم خراسان and كركم[15]»

Al –Karurí الكاروري, on the other hand, ascribes all changes that take place in loanwords to one governing criterion. He defines this as the tendency by the Arabs to attain sound harmony[16].

2.1. SOUNDS WHICH EXIST IN BOTH THE LOANFORM AND ARABIC BUT WHICH ARE YET REPLACED BY SIMILAR SOUNDS OF THE SAME NATURAL CLASS[17] :

Síbawayh hints at such segmental changes in his book الكتاب :

« Often they change the combination of a word from what it was in the foreign language, by assimilating to Arabic letters such as are not Arabic, and replacing a letter, even though it be like Arabic, by another one[18]» But, « they may have a noun unchanged when its letters are like theirs[19] ».

He, further, describes some irregular changes of loanword sounds that have Arabic counterparts. For instance, he cites the word سراويل (from Persian شراويل) in which the ش was replaced by a س , the proper name إسماعيل (from Hebrew/ Syriac إشماويل)[20] wherein the ش was turned into س and a ع was substituted for the و and the Persian كفجليز « a ladle » which was Arabicized as قفشليل by replacing the ک→ق , the ج (or

rather ج)[21] by a ش and the final ز ← ل (by regressive assimilation under influence of the original ل).

Al-Khafājí الخفاجي remarks that irregular changes of loanword sounds that have indigenous counterparts are confined to the ش ، س ، ز and the ل[22]. Yet, الجواليقي cites instances of similar cases. For examples, he traces the origin of الحرباء to Persian خربا (i. e . خ←ح)،(ت←ث،) التوت to the Presian توث (i. e . ث←ت) الطابق « frying pan » to Persian تابه (i. e . ت←ط)[23]. Indeed, الشبث ،« dill » to Persian شوذ (i. e . ث ← ذ) and these sounds along with those mentioned by both سيبويه and الخفاجي constitute but few members of a larger group. For instance, in the course of our study we came across some frequent changes of foreign segments that could have been retained intact by dint of having corresponding Arabic equivalents. Some of these segments/ sounds include the following:

A.CONSONANTS :

1.Hamza

In Persian a همزة is often replaced by other segments :

أبرة :ح ← أ	حباري ← 'bustard'
أنزروت:ع ←أ	عنزروت ← 'glue'(i. e. replaced by its velarized counterpart).
أربيج : أ← ن	نربيج ← « mouthpiece of a narghile »
أندام :هـ ←أ	هندام← 'attire'(Also Latin endivia←هندباء 'endive')
زرآب :ي ←أ	زرياب ← 'literally : gold-water(also used as a bird's name)

Similarly, the همزة (or its equivalent) is velarized in loanwords from other languages[24].

أ ← ع: akhathis(Greek) عقيق← 'carnelian'
somaet (Ethiopic) صومعة← 'silo'

2. ت

ت ← د	تراج (persian) pheasant	دراج ← (تدرج or)
	زرتك(persian)	ندرج←
ت ← ط :	Stabulum (Latin)	إسبطل ←
	Augustus(Latin)	أغسطس←

3. ث

ث ← ت ث :	توث (persian)	توث[25] ←
	thiryakos(Greek)	ترياق←[26]
ث ← د :	kantharitis(Greek)	خندريس← 'vintage wine'

4. ج

ج ← ز :	كنج(persian)	كنز ← 'treasure[27]'

جراغ(persian) : ج←س   سراج 'lamp. Light' (via Aramaic شراغا)²⁸ →

كفجليز (persian) : ج←ش   قنشليل 'a ladle' →

كج (persian) : ج←ص   جص²⁹ 'plaster' →

رامج (persian) : ج←ق   رامق 'a decoy' →

كوسج (persian)   كوسق →

5. خ.

خربا (persian) : خ←ح   حرباء 'chameleon' →

enchelis (Greek) : خ←ح   أنقليس 'eel' →

mastikhia (Greek) : خ←ك   مصطلكي 'mastic' →

dhrakhmi (Greek) : خ←هـ   درهم →

6. ذ → د :

بالودة (persian) :   فالوذج →

odor (Syriac)   آذار³⁰ →

zindan (Turkish) : د←ز   زنزانة³¹ →

دنب بره (persian) : د←ط   طنبور 'a mandolin- like instrument' →

moda (Italian) : د←ض   موضة 'fashion, vogue' →

دنك(persian)   ضنك 'osterity, hardship' →

7. ث → ذ : شوذ (persian)   شبت³² →

خيذ (persian) : ذ←د   خيد →

8. ر.

سردار (persian) : ر←ق   سرداق 'pavilion' →

كنده بير (persian) : ر←ل   قندويل (or قندفيل)'huge' →

barril (Spanish) : ر→م   برميل (i.e.2ⁿᵈ |r| → |م³³ →

رهوار (persian) : ر→ن   رهوان 'ambler'(horse) →

9. ز.

زنكَلُ (persian) ز←ج   جلجل ' a little bell'³⁴ →

أندازه (persian) : ز→س   هندسة³⁵ →

telezma (Greek)   طلسم (talisma) →

ص ← ز: polizza(Italian) بوليصة ← [36]

ظ ← ز: boza (Turkish) بوظة ← 'ice-cream'[37]

باز (persian) ع ← ز باعٌ ← 'span of the outstretched arms (a measure)[38]

آبريز (persian) ق ← ز إبريق ← 'a pitcher or a jug'

كفجليز ل ← ز قفشليل ← 'a ladle'
(persian)

10. س

سرنوكر (persian) ت ← س ترنوك ← 'despicable'[39]

سرموزه (persian) ج ← س جرموق ← 'a slipper or its cover.'

sahro (Aramaic) ش ← س شهر ← [40]

stabulum (Latin) ص ← س إصطبل ← (could be via Aramaic 'establa')

mastikhia (Greek) مصطكا ←

سربوش (persian) ط ← س طربوش ← fez'[41] 'turban,

11. ش

gadich (Hebrew) ث ← ش جدث ← [42] 'grave'

حرش (Hebrew) ج ← ش حرج ← [43] 'thicket or woodland'

qachicho (Syriac) س ← ش قسيس ← [44] 'pries't ; and موشى

(Hebrew) → موسى [45] 'Moses'

شمن (persian) ص ← ش صنم ← [46] 'idol'

12. ع

to outo (Syria) غ ← ع طاغوت ← [47] 'idol or seducer'

13. غ

أرغوان (persian) ج ← غ أرجوان ← [48]

دوغ (persian) ق ← غ دوق ← [49] 'butter-milk'

زاغر (persian) زقلة ← [50] 'a bird's name'

14. ف

fleghma (Greek) ب ← ف بلغم ← [51] 'phlegm'

foum (Hebrew) ث ← ف ثوم ← [52]

15. ك

sac (Turkish) ج ← ك صاج ← [53] 'bread tin'

ankura (Greek)

→ أنجر'anchor'

ك → خ: cartouche(French) 'cartridge'خرطوش →

carciofo (Italian) 'artichoke'خرشوف ←

oktopous(Greek) 'octopus'أخطبوط →

ك → ق: dhorakinon(Greek) 'peach'دراق⁵⁴ →

kaftan (Turkish) 'caftan'قفطان →

16. ل : there are no consistent cases of ل segmental changes :

ل → همزة: لنكر (Persian) 'anchor'أنجر⁵⁵ →

ل → ع: لشكر (Persian) 'army or constabulary'عسكر⁵⁶ →

ل → ن: صلمو (Syriac) 'idol'صنم⁵⁷ →

17. م

م→ ن: pamodora (Italian) 'tomato'بندورة →

tembel (Turkish) 'idle'تنبل →

rosatum (Greek) 'wine mixed with honey'رساطون →

18. ن

ن → ب: تنبان (Persian) → تُبَّان⁵⁹'tight short pants'→ (the Persian ن → م under influence of the ب , then the م was assimilated into the ب in a geminate form).

ن → س: sindhon (Greek) → سندس⁶⁰ 'silk brocade'

ن → ي : صندلاني (Persian) → صيدلاني⁶¹ 'pharmacist'

ن → ن : جانباز (Persian) → جمباز 'gymnastic'(alternative pronouced جنباز)

19. ـهـ

هـ → ج: بنفشه (Persian) → بنفسج'violet'

rhetine (Greek) → راتينج 'resin(here the final sound [a] was treated on par with a [ـهـ])

هـ → ح : هران (Persian) → حران⁶² 'Carrhae: ancient Mesopotamian town'

هـ → خ: haimat (Ethiopic) → خيمة⁶³ 'tent'

hosaf (Turkish) → خشاف 'compote or raisin juice'

هـ → ز: دهلة (Persian) → دهليز 'foyer or corridor'

هـ → ق: بوته (Persian) → بوتقة 'melting pot'

نيزة: ك → هـ (Persian)   نيزك 'meteor' →

A NOTE ON FINAL |ـه| IN PERSIAN LOANWORDS:

Sîbawayh سيبويه remarks that Persian speakers replace final |ـها| by either a همزة or a ي in fast speech.Thus, the Arabs replace final Persian ي which contravenes with Arabic morphological restrictions on final segments by its nearest equivalent(s), viz the ج or alternatively the ك or the ؤ.[64] In other words, final Persian ـه which is repalced in Arabicized loanwords by a همزة or a ج or a ح or a خ or a ز or a ؤ or a ك (see obove under 18-ـه) is originally a ي and not a ـه.

Al-Karūri الكاروري, however, traces the origin of the final Persian |ـها| to Middle (Pahlavi) Persian in which the final |ـها| was pronounced a ك [65](which could , in turn, be a Persian گ |g| ; the change is , therefore, phonologically warranted).Further, he notes that the final ـه was at times replaced by a ج or a ؤ in order to show inflectional endings. In some cases, it was mistaken for feminine ـة /ő in Arabic and at times was replaced by a ـة /ő as in روزنه (Persian)→روزنه ' a hatch'[66].

Ali attributes such changes of foreign sounds that have native Arabic counterparts to«the tendency of Arabic sounds to combine in certain sequences rather than in others»[67].With regard to the velarization of sounds like ت، د، س، ك and the hamza by replacing them with their emphatic counterparts viz ق، ص، ض، ط and ع respectively, he oberves that «early Arabs were keen to preserve the character of Arabic. Emphatic sounds, being among the salient features of Arabic must thus here been to be more capable of embodying this distinction rather than the non-emphatic which are common to most languages »[68]. In other words , whether the Arabs consciously or inconsciously velarized the د، ت،س، and the ك , their aim was to exploit the phonological potentialities of the language in order to give loadwords an Arabic characteristic[69].

B.VOWELS :

The earliest reference made with regard to the change of vocalization while Arabicizing loanwords is to be found in the book of سيبويه :

«Further, they change the vocalization as in زُور and آشــوب which are rendered as زُور " falsehood " and أشوب "mixture"[70] ».

B.1.SHORT VOWELS :

Here, we will use Arabic approximants to represent foreign vowels for reasons of uniformity.

1. فتحة |a| (or its near equivalent)

1. فتحة |a| → ألف |a:|:

bus (English)→ باص (instead of possible form بَص)[71]

1.2. فتحة|a| →ضمة |u|:

khabast (Ethiopic)   → خُبز (bread)

gumrak(Turkish) → جُمرك 'customs'[72]

دستور (Persian) → دُستور 'constitution'(under influence of the following وُ)

1.3. فتحة |a| → كسرة |I|

tabac(French or Spanish) → طِباق 'tobacco'

cambiale(Italian) → كمبيالة 'bill of exchange' [73]

galbab(Ethiopic) → جِلباب 'gown'

fasah (Hebrew) → فِصح

2. ضمة |U| (OR ITS NEAR-EQUIVALENT) :

2.1 ضمة |u| → فتحة |a| :

gaborouto(Syriac) → جَبروت 'omnipotence'[74]

gue hinnom(Hebrew) → جَهنُم 'Hell'[75]

pomodora (Italian) → بندورة ' tomato '

كُركدن (Persian) → كَركدن 'rhinoceros'

2.2 ضمة |u| → كسرة |I| :

ovrizon (Greek) → إبريز ' pure gold'[76]

بَلوُر (Persian) → بلّوُر 'crystall'

mushka (Sanskrit)[77] → مسك 'musk'

2.3. ضمة |u| ف دا |: :

neon (English) → نيون instead of نيُن

سُنبُك (Persian) → سنبوك or سنبوق 'barge'[78],

2.4 ضمة |u| → يـ |i: | :

manganon (Greek)[79] → منجنيق 'mangonel'

3. كسرة |I| (OR ITS NEAR – EQUIVALENT) :

3.1. كسرة |I| → فتحة |A| :

ethir (Greek) → أثير 'ether'

enchelis (Greek) → أنقَليس 'eel'

imperator(Latin) → إمبَراطور ' emperor'

ورل (Persian) → ورَل 'monitor lizard'[80],

3.2. كسرة |I| → |U| ضمة:

    istoria (Greek)   'fable' أُسطورة ←

    pirghos(Greek)   ← بُرج ' tower[81],'

3.3. كسرة |I| → ألف |a|:

    tighnon(Greek)   طاجن← 'frying pan'[82]

    chech(Hebrew)   شاش ←'muslin' [83]

3.4. كسرة |I| → وُ |ɔ|:

    kazik (Turkish)   خازوق ← 'pole or dirty trick'[84]

3.5. كسرة |I| → يـ |i:| · :

    Varnish (English) ← ورنيش

    candela(Greek)[85]   ← قنديل ' lantern'

    archipelaghos (Greek)   ←أرخبيل 'archipelago'[86](Also notice the 'i' I→ فتحة |a|)

B.2 LONG VOWELS :

1. ألف |a| : - (or its near equivalent):

1.1. ألف |a| : فتحة→ |a| :

    كمانجة(Persian)   ← كمنجة[87]'violin'

    كفادار(Persian)   ←قفَدان[88]'kohl container'

1.2. ألف |a| : ع→ :

    maccarone (Italian)   ←معكرونه

    كاك(Persian)   ←كعك 'cake or pretzel'

    نانه(Persian)   ←نعناع 'mint'

1.3. ألف |a| : يـ→ |i:| :

    trabzan (Turkish)   ← درابزين[89]'railing or banisters'

1.4. ألف |a| : يا→ |y| :

    كاروان (Persian)   ←قيروان[90]'caravan'

2. وُ |ɔ| :

2.1. وُ دا |a| : فتحة→ |a| :

    opion(Greek)   ←أفيون[91]'opium'

    خون كار(Persian)   ←خنجر 'dagger'

2.2. وُ |د : | ← فتحة + و i.e. the diphthong |aw| :

روُنيك(Persian)   ←روُنق'[92]'splendour of beauty

2.3. وُ |د : | ← |a : | ألف :

odor (Syriac)   آذار[93]'March'

noqoucho(Syriac)   → ناقوس[94]'bell'

كسرى(Syriac) ← (Syriac)كوسرو→[95]خسرو(Persian)

dhimocion(Greek) →ديماس[96]'dungeon'

2.4. وُ |د : | ← ضمة |u| :

برغول(Persian)   →برغُل[97]'cooked, parched and crushed wheat'

روستاق(Persian)   →رُستاق[98]'the village and its vicinity'

2.5. وُ |د : | ← |ايـ| :

Kopru(Turkish)   →كوبري[99]'bridge'

burgu(Turkish)   →برغي[100]'screw'

3. يـ |i : | (or its near – equivalent) :

3.1, يـ |i : | ← فتحة |a| :

ديدبان(Persian)   →دَيدبان 'sentry, guard' (under influence of the
following دَ and ألف)

piselli (Turkish)   → بسلى or بسِلّة[101] (with a short final ألف)'peas'

3.2. يـ |i : | ← ضمة |u| :

pondika(Greek)   →بُنْدُق[102]'hazelnut'

3.3. يـ |i : | ← كسرة |i| :

كريبان(Persian)   →جربان[103]' scabbard'

3.4, يـ |i : | ← |a : | ألف :

zorifo(Syriac)   →زرافة[104]' a giraffe'

3.5. يـ |i : | ← وُ |u: | :

hairetikos(Greek)   →هرقوطي 'heretic'

2.2. Sounds that do not Constitute Part of the Arabic Phonological System:

Such sounds are often replaced by their nearest homorganic equivalents. سيبويه notes that :

« ... the Arabs assimilate (foreign) letters to Arabic letters... Thus, Persian |g| is changed into either a ج or a ق or a ك as in جُرِبز or فُرِبز or كُرِبق respectively. Similarly, they replace the |p| by a ف in فِرند or a ب as in بـرند... Frequently, they change a letter which does not exist in Arabic, without changing the original structure of the word as in فِرند , بَقُّم , آجر and جُربز[105].

In like manner , الجواليقي remarks that the Arabs :

« often change loanwords... by substituting foreign phonemes by their nearest homorganic Arabic equivalents. At times, they may even replace foreign phonemes by heterogeneous(i. e. heterorganic) substitutes. It is imperative to accommodate such changes lest Arabic should be infiltrated by "foreign" phonemes[106].

He, further, quotes الجوهـري on the subject and comments on the latter's use of the word تخلـط 'interfere with' in the sentence "العـرب تخلـط فـيما ليس مـن كلامـها" which implies that the Arabs 'interfere with the pronunciation of foreign phonemes and alter the structure of loanwords to conform with the canonical patterns of Arabic. To achieve this they modify loanwords by adding, replacing or eliding a segment or a short vowel(i. e. a. diacritical)'[107].

In المزهر , اليسوعي classifies Arabic phonemic substitutes for foreign sounds into two categories :

1- Phonemes which regulary replace foreign sounds : these include the ب،ق،ج، ك and the ف. Such phonemes often replace sounds that have no Arabic equivalents.

2- Phonems which are used to substitute foreign sounds on irregular basis : these include the ل، س،ش،ع and the ز, [108]though, as was discussed earlier under 2.1 some of these phonemes may replace sounds that have identical arabic equivalents.

Nevertheless, it seems that philologists of late erroneously confined segmental changes to the above said phonemes, despite the fact that الجوالـيقي and سـيبويه were merely citing examples rather than providing an exhautive account of the subject.Besides, الجوالـيقي was primarily interested in Persian loanwords in Arabic and , hence, his comments and notes were directed towards the corpus of loanwords that was at his disposal.Indeed, nowadays the subject of foreign sound substitution has become more diverse with the increase in volume of loanwords and the number of source languages. In the following we will present some examples of substituting phonemes which are lacking in the phonological system of Arabic.

A. Foreign Consonants :

1. |P| :

This segment constitutes an accidental gap in Arabic phonology and orthography though, as will be discussed below, a devoiced version of the |b| (i. e. |b.|) is present in certain consonantal clusters[109].

1.1.|P| → ب |b| :

porphura(Greek)   → برفيـر 'purple'

Aprilis(Latin) أبريل→

Operette(French) →أوبريت

Amper(English) →أمبير

بَرواز (Persian) →بِرواز[110]

1.2.|P| → ف |f| :

Spongos (Greek) →إسفنج

piscina(Latin) →فسقية 'fountain'

بولاد(Persian) →فولاذ'steel'

In certain cases a |P| can be replaced by both a ب and a ف in two versions of the same loanword.
e.g.

بِرنـد (Persian) ———{ برند
both meaning ' as word'
فرند

Notice the homorganic feature (labial) in both the original sound and its replacements.

2. |v| :

2-1.|v|→ب |b| (mainly in old loanwords) :

ovrizon (Greek) →إبريز ' pure gold'

evenos(Greek) →أبنوس'ebony'[111]

2.2. |v| → ج |dz| :

Anchova (Spanish) →أنشوجة[112]' anchovis'

2.3. |v|→ ف |f| :

Vergilius(Roman poet ; a Latin name) →فيرجيل « Virgil »

Archives (French) →أرشيف

Virus (English) →فيروس

2.4. |v| → و |w| :

Varnish (English) ورنيش → (c.f. the French 'vernis')

Pehlivan (Turhish) →بهلوان[113]'clown'

3. |tʃ| :

3.1. |tʃ| → ج |dz| :

كمانجة (Persian) →كنجة'violin'

جانك (Persian)   جنك 'a lute' ←

3.2. | ∫ t | ← ش | ا∫ا | :

چاي (Persian)   شاي'tea'←

çanta (Turkish)   شنطة [114] 'bag' ←

inch (English)   إنش←

3.3. | s | ← ص | ا∫ t | :

خارجيني(Persian)   خارصين[115]'zinc'←

چك (Persian)   صك ' contract, document, cheque' ←

Certain loanwords may have alternative spellings as in :

شوبك، شوبج، شوبق

جوبه(Persian) ——— all meaning ' a rolling pin'

صوبج
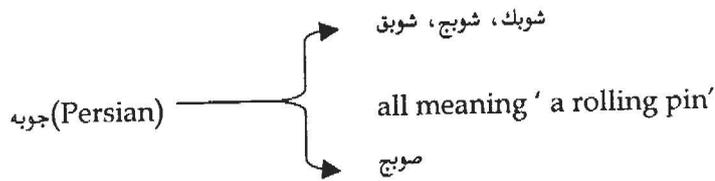
The | t ∫ | may also be rendered as تش as in :

Sandwich (English)   سندويتش←

4. | g | :

4.1. | g | ← ج | dz | :

Tighnon (Greek)   طاجن[116]'frying pan'←

monologue(English/ French)   مونولوج←

garçon (French)   جرسون 'waiter' ←

gumruk(Turkish)   جمرُك'customs'←

4.2. | g |←غ| gh | :

Gardiro (Syriac)   غدير[117]'stream, creek' ←

Augustus (Latin)   أغسطس←

Pythagoras (Greek)   فيثاغورس←

dogma(Turkish)   دمغة'stamp, hallmark' ←

gas(English/ French)   غاز←

4.3. | g |←ك| k|:

Sagrougo(Syriac)   سكرُجّة[118]'bowl, platter'←

Magoung (Armenian)   مكّوك←[119]'Shuttle; also a weight measure'

garage(English/ French)   كراج←

In some casesn, a loanword may have alternative forms as in :

برکار(Persian)   برکار ← / فرجار   both meaning 'compasses (geometry)
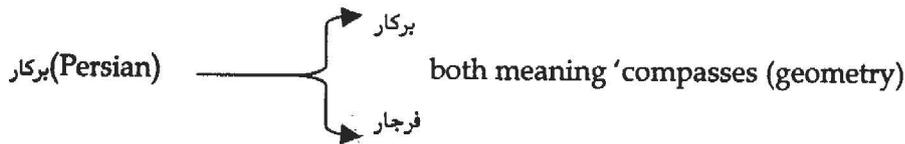
Also notice that the $|g|$ in sagrougo → سكُرُجّة was replaced by both a ك and a ج within the same word.

4.4. $|g| → |q|$:

گريز (Persian)   قرنق ← / كُربج ←   both meaning 'store,tavern'
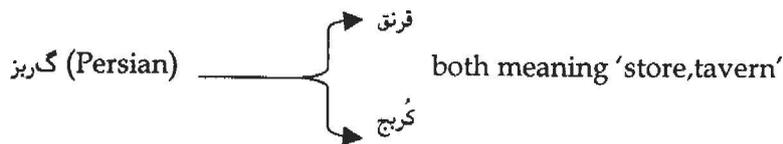
Groschen (German)   قرش← 'piaster'

اليسوعي claims that the Arabs used a sound similar to the $|g|$ but was abandoned later[120]. Consequently, the ج in جـص (Persian : كج) used to be pronounced $|g|$, for examples, in the dialect of الحجاز as a $|g|$ [121]; hence, the change of the ك←ج instead of a ك or a غ .

5. $|\check{g}|$:

5.1. $|\check{g}| → |d|$ ج :

Montage (French)   مونتاج←

régime(French)   رجيم←

5.2. $|\check{g}| → |z|$:

كز(Persian)   قز ← 'raw silk'

زيوه(Persian)   زئبق ← 'mercury'

Notice that both original sound and its Arabic equivalent are continuant, coronal, sibilant fricatives.

A NOTE ON MARGINAL CONSONANTAL PHONEMES:

In assimilating foreing sounds, reference is sometimes made to 'marginal phonems' i.,e. classes of sound found only in loanwords such as the $|v|$ in the pronunciation of فيديو 'video' and فيتامين 'vitamin', the $|g|$ in كونغرس 'congress' and the $|\check{c}|$ in إنش 'inch' or شارلز (alternatively written تشارلز) 'Charles'.But there is no good reason to treat these sounds as phonemes, whether marginal or not, of Arabic[122]. They may best be regarded as non-Arabic insertions and hence may be pronounced with their original allophonic

features, though ortographically written in the nearest Arabic alphabetical symbols. In effect, when we consider the replacement of foreign sounds by their Arabic near-equivalents we could be talking about a process of assimilation on a binary level of spelling and pronunciation or simply a phonemic change at the level of spelling but with the retention of the allophonic quality of the source language phoneme.

In the loanword تلفزيون, the |v| sound of the original 'television' almost always shows transfer, i.e. it is pronounced [v] though written ف in Arabic[123]. Yet, the analogical form تلفاز , is not likely to show such a transfer since it corresponds to a native morphological pattern in line with سِرْبال 'shirt'. This indicates that full phonological assimilation goes hand in hand with full morphological integration[124].

With regard to the |P| in loanwords, Thornberg [125] observes that the |P| occurs as an allophone of Arabic ب |b| in the environment of syllable -or word- final position in some borrowed lexical items such as:

Chips	→[tʃ I ps](the written form in Arabic is شبس)
Helicopter	→[he I loka ptɛr](هليكوبتر)
Captain	→[kæptin](كابتن)
express	→[ɛksprɛs إكسبريس)

To account for such exceptinal cases, with respect to the general borrowing rules that stipulates |p|→|b|, she quotes zughloul's[126] explanation which can be cast in the following notational rule:

$$|b| \rightarrow |p| / [- vd]$$

In other words, the[+ vd] b becomes [- vd] before another[- vd] consonant .Further, she refers to Vennemann who,"argued that the process of assimilation is a weakening process and the fact that it occurs in syllable-final position is natural due to the universal strength relations", according to which,"in syllabe- final position we are likely to observe processes and the fact that it occurs in syllable- final position we are likely to observe processes of weakening[127]."

It is likely that Thornberg may have overlooked the fact that what she calls exceptionnal cases are but dialectal pronunciations of the orthographical form for the phoneme | ب |. |p| remains a gap in Arabic proper and the occurrence of not only the |p| as an allophone but also the |tʃ|, |g|, or even the |v| in the pronunciation of Arabicized loanwords depends on:-

1. Level of education: some educated Arabs may tend to imitate the original source sounds of loanwords.sometimes , the speakers may pronounce the word with a feedback from his previous knowledge of the source language[128].
2. Dialectal influences: some dialects may, out of sluggishness of speech, aspirate the ب|b| while others may adopt wholesale loanwords with a reproduction of their source sounds.

Further, it should be pointed out that one of the axamples given, namely' express' →[ɛksprɛs] has been mistranscribed, since the actual pronunciation of the loanword of the loanform in Arabic is إكسبرس [ɛksibrɛs] with a break in the consonantal cluster. In such an enviroment the |b| cannot be made [- vd] by reason of being surrounded by two [+ vd] segments.

Rather than a [- vd] allophonic version of the |b| we have, as Thornberg quite rightly observes a devoiced |b| [129].However, Thornberg states that the devoicing occurs when the |b| is in initial position in a stressed syllable before low, mostly back vowels.Yet, the examples cited by her are either confined to certain dialects or are brand names the latter's pronunciations are highly irregular and are not subject to a given phonological rule. Indeed the |b| in words like 'ping-pong', 'pepsi' 'tape' or 'pipe' (as cited by Thornberg) is likely to be devoiced by way of original sound transfer though imitation , though Thornberg does not deem

it to be so[130].

Instead, what we have is a general assimilation rule whreby a |b| will be devoiced before[- vd] consonant, i.e. |b| →|b| / -[- vd].this rule may optionally apply in the pronunciation of شبس [tʃ ibs], كابتن [k æptin] and any other word with similar consonantal sequence including native Arabic words such as دبس [dibs], 'date sirup'.

Finally ,Thornberg notes that "since |n| is neither phonemic nor is it represented in the orthography of Arabic, it is changed to a nasal+ obstruent sequence ..." The articulation of the adapted form is something akin to n + ʃk but not quite an |ŋ| [131].
gh

She cites some examples amongst which are:

Boeing → |Boωing|
Westinghouse → |Wɛstinghous|
Tang →|Tængh|

Exception of the Rule:

Ping pong →|bij ŋ b^{kɔ}ŋ|

Well, it seems that Thornberg was misled by the transliterated form of the above words since in actual speech نغ نج or even لك are all pronounced as|ŋ| or to be exact |n|+ |g| regardless of the orthographical representation.Thus, for example, the word 'congress' is transliterated either as كونجرس or كونغرس but almost always pronounced | ^{kɔ}ŋgrɛs | or | ^{kɔ}ŋgɛrɛs |. Another equally interesting example is انجلتره or alternatively إنكلترا from French' Anglettere' |āŋlatɛr| meaning 'England'. Here, both the ج and the ك are pronounced as a |g|, yet, the |ŋ| is , to use Thornberg's term, separated into two segments: ن+ج (or ك) with كسرة |I| infixed after the ج (or ك). Thus, the Arabic word would read |'ingiltarah|. Once again, the exact pronunciation of the Arabicized from is determined by education and feedback from the speaker's knowledge of the source language.

B. ASSIMILATION OF FOREIGN VOWELS AND DIPTHONGS:

Both سيبويه and الجواليقي make reference to the change of the vowel quality of loanwords upon their assimilation into Arabic.Thus,سيبويه states, " وغيروا الحركة", "they (the Arabs) change the vowels"[132], while الجواليقي includes with other phonological modifications the substitution of a vowel by another as well as making a vowelized(consonant) vowellees and vice – versa[133].

In the following, it will be seen that, as with other segmental changes, the quality and length of foreign vowels is determined by way of approximation rather than by any sound phonological criteria.

1. |ǎ| → فتحة + م |am| or ن+ألف |a : n| (i.e. spreading)

    champagne |ʃǎpan| (French[134]) → شمبانيا

    parlement |parlamǎ| (French) → برلمان

2. |æ |→ فتحة |a|:

    sandwich(English) → سندويتش

3. | ɛ | → | يـ | z : | :

    bifteck | biftɛk | (French)   ← بفتيك

    étiquette | etikɛt | (French)   ← إتيكيت

4. | ɛ̃ | → | ألف+ن | a : n | (i.e. spreading) :

    mannequin | mankɛ̃ | (French) → مانيكان

5. | ɛ̃ | → | ألف | a : | :

    batteria | batɛaria | (Italian)   ← بطارية

6. | œ | :

6.1. | œ | → | وُ | ɔ : | :

    docteur | doktœr | (French)   ← دكتور

6.2 | œ | → | يـ | ج : | :

    Coiffeur | kwafœr | (French)   ← كوافير

7. | y | → | وُ | ɔ : | :

    caricature | karikatyr | (French) ← كاريكاتير

    jupe | ʒyp | (French)   جوب ← (ميني جوب as in)

8. | u | → | وُ | ɔ : | :

    douche | duʃ | (French) → دوش

    doublage | dublaz | (French)   ← دوبلاج

9. | u | → | وُ | ɔ : | :

    rheumatism | ruɜ:mətizðm | (English) → روماتيزم

10. | ∅ | → | ايـ | i : | :

    De luxe | dØlyx | (French) → ديلوكس (notice also | y | → | وُ | ɔ : |)

11. | ɔ | → | ن+وُ | ɔ : n | :

    coupon | Kupɔ̃ | (French)   كوبون ← (notice also the | u | → | وُ | ɔ : |)

12. | I | → | أكسرة | او | :

    | gɜlba : b | (Ethiopic)   جلباب←[135]'gown, dress'

    | ma : ɜd | (Ethiopic)   مائدة[136]' table' → →

Yet, according to الكاروري , if a | | is adjacent to a bilabial, it is changed to a ضمة | u |[137] :

    e.g. | khðbast | (Ethiopic)   خُبز→[138]'bread'

|bərh a :n|(Ethiopic) 'proof'[139] بُرهان←

2.3. STRESS SHIFT :

This type of change is incurred on loanwords in Arabic owing to:
a-Mispronunciations in the absence of diacritics or as a result of a transliterational error on the part of the translator:
e.g.

étiquette(French) →إتيكيت while according to the French pronunciation etik t it should be إتيكِت

nylon(English) → نايلُن/ نيلون instead of نيلُن or نايلُن

keramis (Greek) →قرميد instead of قرامِد

varnish(English) →ورنيش instead of وارنِش

Note that in most of the above examples the stress is shifted from the first to the second syllable.
Such erroneous pronounciations which could also be the result of mistransliterating the original source word are but part of the problem of

"... how to respresent (foreign) pronunciation within the frame work of the Arabic script. For the dictionary user who knows (the foreign language) well, no pronunciation aid would be necessary. Such a user will recognize the word or pronouce it from his knowledge of its (original)spelling. But the dictionary user who does not know (the foreign language) may wish to pronouce the loanword in a recognizable approximation of its native from... The loanword may be respelled in parentheses with the Arabic vowels and consonants that are closest to the foreign phonemes...[140]".

B-THE INFLUENCE OF ARABIC STRESS PATTERNS:

Arabic tends to place the primary stress on the next to the last syllabe.this often results in accentuating or prolonging the stressed sound as it is summed up by إبن جني in الخصائص,

" when short vowels are accentuated, they are changed to their corresponding long vowels.Thus a فتحة is turned into an ألف, a كسرة into a يـ and a ضمة into a وُ[141]"

e.g. فتحة←ألف :

بردان (Russian)→ بردَه 'early morning and evening'

louvi(Greek)/لوبييا(Persian[142]) →لوبياء 'bean'

يـ → كسرة

Candela(Greek) → قنديل

Nickel(English) → نيكل

وُ → ضمة

Chimos(Greek) → خيموس

Technology(English)/ technologie (French) →تكنولوجيا

Similarly, the stress shift to the syllable before the last accounts for the doubling of the ك in دُكّان 'store'(from Persian : دُكان[143]) and the ر in درّاج 'francolin(zool)'(from Persian : تُراج[144])

Some cases of stress shift may entail (medial) segmental deletion as in قرميد 'foof tile' (from

Greek : keramis)wherein the medial vowel'a' was dropped owing to transposing the stress to the i ‖ which as a result was turned to a ـيـ|i| in قرميد . And in the word رسداق / رستاق 'a village and its outskirts' '(from Persian: روستا) the و was deleted as a result of the stress shift.

Finally, in the word جرّبان 'scabbard'(from Persian: كُريبان)[145] we have a case of doubling the ب and deleting the ـي .

2.4 SEGMENT AND FEATURE ADDITION :

2.4.1. Declusterization by way of Epenthesis:
in order to break consonant clusters, The Arabs interpose a vowel whether initially or medially(usually after the first consonant) or by prefixing an additional syllable composed of the glottal stop ء (همزة) and a short vowel,thereby creating a new syllabe of the type CVC which is permissible in Arabic.Thus , for example, the consonantal string of CCC in words like 'ice cream' and 'express' is broken into CVCC in their arabicized counterparts أيسكريم and إكسبرس. Similarly, CC in Italian 'balcone' and French 'cadre' is broken into CVC in بلكونة and كادر.

Intial consonant clusters also undergo epenthesis either by prefixing a همزة or inserting a vowel as in the following examples :

كليلو (Syriac)	إكليل [146]'crown, wreath' →
هليلة(Persian)	إهليلج 'myrobalan' →
Scala (Italian)	سقالة 'scaffold' →
Drama (English)	دراما →
Klima (Greek)	إقليم 'region' →
Klirikos(Greek)	إكليريكي 'clerical' →
sfin(Greek)	إسفين [147]'Wedge' →
Zmili(Greek)	إزميل 'chisel' →
drachma(Greek)	درهم →
Spirito(Italian)	إسبرتو →
Stade(French)	إستاد 'stadium' →
Anomalies	
studio(English)	ستوديو →
flourescent(English)	فلورنست →
stereo(English)	ستيريو →
styrofoam(English)	ستايروفوم →

cement(English) ciment(french) → إسمنت (Despite the declusterized sequence of the original).

(Persian)إنكشتبان → كشتبان [148]'thimble'

2.4.2 to show inflection, a همزة or a ج is sometimes added finally to loanwords ending in a vowel or a |h|.

e.g.خربا (Persian) → حرباء [149]'chameleon'

سارو(Persian) → صاروج 'lime, depilatory agent'

rhetine (Greek) → راتينج 'resin'

sima(Greek) → سيماء [150]'mark, sign'

2.4.3 Final Nominal Suffixة :

Accademia (Italian)/ akademeia (Greek[151]) → أكاديمية

Bourgoise(french) → بورجوازية

kathedra(Greek) → كاتدرائية 'cathedral'(notice the addition of the همزة in line with 2 above regarding final addition to show inflection).

molochi(Greek) → ملوخية [152]'jew's mallow'

strategy(English) → إستراتيجية (notice the prefixation of إ in line with 1 above)

2.4.4. Relative / adjectival ي :

artois(french) → إرتوازي

Hidiv (Turkish)/خديو(Persian) → خديوي [153]

Amarantacées (french) → الفصيلة الأمر نيه

2.4.5.In some loanwords from Syriac as well as other languages some segments are doubled probably to be modelled after existing morphological patterns.

e.g. From Syriac:

جنتو 'ganto[154]' → جنة 'paradise' (according to the the pattern فعلة)

سمورو 'samouro' → سمُور 'sable' (according to the pattern فعُول)

مشلتو 'machalto' → مسلة 'spire' (according to the pattern مفعلة)

Others :

سنكل/ سنك كل(Persian) → سجّيل 'lump of clay' (it is modelled after the pattern فعّيل, to indicate large quantities)

Dhorakinon (Greek) → درّاق 'peach' (according to the pattern فعّال)

Scala (Italia) → سقالة [155]'scaffold' (according to the pattern فعّالة)

2.4.6 . Miscellanea :

زراب(Persian) → زرابي (singular : زربي)' mat, carpet' (the ي was suffixed to the Persian loanword to form the plural from which the singular was derived by backformation).

Kastanon(Greek)	→ كستناء chestnut' (suffixing 'alif and همزة after deleting the final '- on-)
Abat – jour (french)	→ أباجورة ' lampshade' (suffixing the ـة for the grammatical gender of feminine).
Horasan (Turkish)	→ خراسانة [156] 'concrete'
zemerek(Turkish)	→ زنبرك [157] 'spring'(by way of coalescent assimilation)
zidan(Turkish)	→ زنزانة [158] 'prison cell'
Mastro(Italian)	→ مايسترو [159] 'maestro'

2.5. DELETION (ELISION) :

Deletion is yet another morphophonemic process that is administered to loanwords.To begin with, سيبويه remarks that, in Arabic, when two t's i. e. تت come in succession, one of them may optionally be deleted[160]. In other words, to cite Bakalla's national formula :

تت → / Ø # ت (opt[161])

e.g.   تتكلّمون → تكلّمون

تتذكّرون → تذكّرون

Further, in his discussion of Arabicized loanwords,سيبويه employs the word حذف [162] 'deletion' to describe one of the changes that are applied to borrowed lexical items.الجواليقي , on the other hand, uses the expression نقصان حرف [163] i.e. 'the omission of a letter' to describe more or less the same process of deleting a segment or more form the original source from. Such changes, according to الكرملي, are attributed to the Arabs' keeness to maintain unstrained and easy pronunciation of loanwords by omitting some of their sounds / letters[164].

In the course of our study, we have noticed that deletion may involve initial, medial or final segments or syllables and may even include the clipping of a part of a word or one member of a compound. In addition, some cases of deletion are language-specific and in effect are more regular than others.

1. **INITIAL SEGMENT/SYLLABLE DELETION :**

Historia (Greek)	→ أسطورة 'myth'
Musandira (Turkish)	→ سندرة [165] 'loft'
انكشتبان (Persian)	→ كشتبان [166] 'thimble'
بيمارستان (Persian)	→ مارستان [167] 'hospital'

2. **MEDIAL SEGMENT/SYLLABLE DELETION :**

Chabbat (Hebrew)	→ سبت [168] 'Saturday'
Ounguiya (Greek)	→ أوقية 'ounce'
Strata(Greek)	→ صراط 'way, path'

بادزهر (Persian) → بازهر [169] 'pathological globules in animals'

بروهان (Persian) → برهان [170] 'proof'

رونيك (Persian) → رونق 'glamour'

فرسنك (Persian) → فرسخ [171] 'league, parasang'

فرهومند (Persian)→ فرهود [172] 'stout boy'

نشخوار (Persian)→ نشواز [173] 'fodder remains (livestock)'

3. FINAL SEGMENT/SYLLABLE DELETION :

Fallopian (English)/Fallopio(Italian) → فالوب

Axis(English) → أكس

شست (Persian) → شص [174] 'fishhook'

نشاسته (Persian) → نشا [175]'starch'

نردشير (Persian) → نرد 'backgammon'

LANGUAGE SPECIFIC DELETION :

a. SYRIAC :

Generally speaking, final وُ |ܒ:| in loanwords of a Syriac origin is omitted upon their assimilation into Arabic.

e.g.   إكليلو   → إكليل 'crown, diadem'[176]

ترعتو   → ترعة 'canal'

تلميدو   → تلميذ 'pupil'

جبروتو   → جبروت 'omnipotence, tyranny'

ديرو   → دير 'monastery'

زبونو   → زبون 'customer'

سفسيرو   → سفسير 'broker'

سمورو   → سمور 'sable'

شحرورو   → شحرور 'thrush, blackbird'

عربونو   → عربون 'down payment'

فدنو   → فدّان 'a square measure = 4200.833m²'

b. GREEK AND LATIN :

In like manner, final segments' syllables in loanwords of Greek or Latin origin are deleted upon their being Arabicised.

e.g. WORDS OF GREEK ORIGIN:

archipelaghos	→ أرخبيل[177]	'archipelago'
fanarion	→ فنار[178]	'lighthouse'
fellinos	→ فلين	'cork'
kalopolion	→ قالب[179]	'mold, model'
keramis	→ قرميد	'roof tile'
koukoumion	→ قمقم[180]	'a bulgy, long-necked bottle'
manganon	→ منجنيق	'mangonel'
narkissos	→ نرجس[181]	'narcissus'
patrikios	→ بطريق	'penguin'
paximathi	→ بقسماط	'rusk'
thirayakos	→ ترياق	'potion'
valsamon	→ بلسم[182]	'balsam'

Deletion of Medial and Final Syllable :

Episcopus	→ أسقف[183]	'bishop'

WORDS OF LATIN ORIGIN :

Canalis	→ قنال or قناة	'canal'
Centenarium	→ قنطار	'kantar'
Corphinus	→ قفة[184]	'large basket'
Denarius	→ دينار	'dinar'
Horreum	→ هري[185]	'granary'
Marmaroon	→ مرمر[186]	'marble'
palatium	→ بلاط	'court'

2.6. CLIPPING OF A WHOLE PART OF A WORD OR A MEMBER OF A COMPOUND

بريده دم (Persian) → بريد[187] 'mail'

نردشير (Persian) → نرد[188] 'backgammon'

هزاردستان (Persian) → هزار[189] 'nightingale'

hydrakele (Greek) → أدره or قيلة [190] (notice that the original loanform was dissected into two parts each of which was Arabicized individually as a full word, yet, both mean 'hernia').

Sometimes, clipping can take the form of assimilation (usually in syllable final position across word boundaries)

e.g.   baking powder   → باكينباور [b kinbawdɛr]

2.7. Dissimilation :

When two adjacent sounds sound alike, one is altered by changing its feature value in order to preserve the contrast between otherwise homorganic or semi-homorganic segments. Sometimes, this takes the form of addition 'epenthesis' or deletion.

e.g. ددبان (Persian) → ديدبان 'centurian' (Deletion of ـي)

بازهر (Persian) → بادزهر 'bezoar' (Deletion of د)

2.8. Metathesis :

Arabicization may also involve metathesis, i.e. transposing phonemes or segments from one place to another.

From Persian :

دار أفزين →دارابزين[191]'hand-rail'

دوَل   →دلو[192]'bucket'

زنجير   →جنزير[193]'chain, track for a tank, caterpillar...etc.'

سردار   →سرادق[194]'pavilion, large tent'

نرماك   →نمرق[195]'pillow'

From Hebrew :

صلوتا   →صلوات[196]'prayers'

جولياث   →جالوت[197]'proper name'

From Syriac :

إفسنتين   →إسفنط'favoured juice'

From Greek :

eparchia   → أبرشية[198]'parish, bishopric'

præcoquus   → برقوق[199]'plum'

litra   → رطل'a unit of weight of variant equivalance : in Egypt 449.28g'.

From Turkish :

eretsane   → ترسانة[200] 'arsenal'

frenlemek   → فرملة[201] 'brake'

manovara   → مناورة[202]'manœuvre'

2.9 Compounding

Examples of compounding are few (see under 2.1). Most of such words are the result of transliterating the pronunciation of two SL components in fast speech.

e.g.   كاه رُبا   (Persian)   →   كهرباء   'electricity'

      جامه دان   (Persian)   →   جمدانة   'a large water pot'

مرزن كوش	(Persian)	→	مرزجوش	'ear lobe'
خون كار	(Persian)	→	خنجر	'dagger'
كفجه ليز	(Persian)	→	قنشليل	'laddle'
Roba Vecckia	(Italian)	→	روبابيكيا	'antiques'
زم هرير	(Persian)	→	زمهرير	'bitter cold'
سنك كل	(Persian)	→	سجيل	'lumps of clay'

But we may notice a multitude of partial translations of compounds, usually in scientific register.

e.g.

Arsenide	→	زرنيخيد
Acide hydro ferrique	→	حمض الأيدروحديديك
Tetrabromide	→	رباعي بروميد
And the awkward 'ideology'	→	فكرولوجيا

2.10 . REMODELLING IN ACCORDANCE WITH ARABIC MORPHOLOGICAL PARADIGMS:

The earliest reference made to remodelling loanwords to conform with Arabic word patterns comes from كتاب سيبويه

"The Arabs change those foreign words which are absolutely incongruous with their own, sometimes assimilating them into the structure of their words, and sometimes not. As for that which they assimilate into their forms (i.e. morphological patterns), There is درهم according to إسحاق، ديماس and دينار according to ديباج، سُلهَب according to بَهْرج، هجْرج according to جَوْرب، يربوع according to يعقوب، إعصار according to آجور، فوْعَل according to قُرطاس"[203] according to رستاق and عذافر according to شبارق، عاقول

Thus, according to سيبويه who holds a somewhat liberal view, remodelling loanwords is not mandatory though they may be subject to other phonological or morphological modifications,

"Often they leave a noun unchanged when its letters are like theirs, be its structure Arabic or not, as in the cases of خراسان، خرّم and كركم They may change a letter which does not exist in Arabic leaving the original Persian structure of the word intact as in فِرِند (from پَرِيند) آجُر (from كربر) جُرُبُر and آكَر (from آكَوَر or آكَر)"[204]

In short, سيبويه was intersted in describing and analysing loanwords rather than prescribing any rules for their incorporation into the patterns of Arabic. To him, المعرّب is a term which describes both analogical and non-analogical Arabicization [205].

Other philologists who maintained an approach similar to that of سيبويه include ابن سيدة ، ابن بري، والخفاجي، الجواليقي. The latter, while examining segmental changes, reiterates the stance adopted earlier by سيبويه by using similar wordings " they may transform the patterns of Persian words into Arabic