

The Creation of Terminology in Arabic

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Abstract

Arabic language is the means whereby Arabs who inhabited the area extended from the Arabian Gulf to the Atlantic Ocean can communicate and, as such, is a strong factor in the Arab nation unity. Due to the fact that new terms are being created almost every day, it was natural therefore that Arab grammarians advocate that word-formation should, as far as possible, be carried out using the native lexical resources of the language. In addition, loan translations and direct borrowings from other languages should come to an end. The main aim of this paper is to investigate the applicability of the main methods put forward by early Arab grammarians to create and introduce new Arabic terms in order to cope with the flow of modern terminologies. This paper is based on a comparison between these methods to look into their workability and suitability in handling the problem of finding Arabic equivalents of foreign terms.

Keywords: Terminology, equivalence, methods, translation, Arabic, English

1. Introduction

Arabs are proud of their language for a number of reasons: it is the language of the Qur'an the Holy book of Islam. It is also the language of their heritage and literature especially poetry which considers the main record of their history. However, Arabic before Islam was not equipped to function as a scientific language. Nasr and Leaman (2002 p. 905) argue that "the inhabitants of the Arabian Peninsula, to whom the Qur'an was first revealed, were simply not prepared to engage in scientific activity, nor were they in the least aware of the scientific and philosophical developments that had taken place in Greece, Persia and India more than a thousand years before the appearance of Islam".

Belyaev and Gourevitch (1969) also claim that among the Arabs at that time there were extremely very few individuals who could read and write and most of them were not very eager to learn. Some historians are of the opinion that the culture of the period (the Times of Ignorance) was almost entirely oral. Two key factors contributed to the change of situation of Arabic after the spread of Islam in the Arabian Peninsula: first and foremost the teaching of Islam which encourages and cherishes seeking knowledge, and second the contact of Arabs with Greek, Indian and Persian civilizations heartens the translation activities. The translation from Greek and other languages' works presented an opportunity for a fresh, new look at Arabic. The pioneer Arab translators such as *Ibn-Ishaq*, who lived during the Abased period, faced with the challenge of creating equivalent terms, set about developing the means to expand Arabic and enhance its ability to adjust to changing realities. In the eighth century, Arabic was the medium by which Greek science passed to the West through translations into Arabic. "In nineteenth century, there was a fantastic revival of the use of Arabic as a great language and as a vehicle of a new literate and literary culture" (Ferguson 1990 p. 42).

In the nineteenth century, however, Arabic has suffered from what Ferguson termed *diglossia* (varieties). He (Ibid. p. 49) states that "the Arabic language situation points up a weakness in one of the principal tools of linguistic analysis... Speakers of Arabic often do not have clear-cut intuitions for oral use of language, and the prevalence of intermediate and fluctuating variants between MSA and pure dialect makes grammaticality and judgments problematic in any case". As a consequence, "classical Arabic was manifestly unable to cope with the demands of the new age - dictionaries were full of obsolete words, a multiplicity of synonyms, and imprecise scientific terms" (Emery 1982 p. 85).

Arabic, therefore, is divided into three varieties: Classical Arabic (CA), the language of the Qur'an, Islam and the heritage of Arabic literature. Modern Standard Arabic (MSA) also called Literary Arabic, the language of school and university instruction, of formal speech, and of the media. MSA is some sort of a supra-national language of all Arab countries which, grammatically and syntactically, can be different from the spoken Arabic dialects to a point that they can be mutually incomprehensible. Colloquial Arabic, the language of informal speech, folklore, and popular drama.

This diglossia has caused the multiplicity of synonymous Arabic terms for the same concept. Sieny (1988) mentions three main causes of this multiplicity: (1) Richness of Arabic, this factor is intensified by the polysemous nature of the language. (2) Arabicization procedures account for synonymy in the area of terminology on many occasions. Terminologists in the Arab world are not in total agreement on specific and exact procedures because terminology as a science is a new field of investigation. (3) The Arab world is basically divided in two main blocks with regard to the main foreign/second language used by the countries. This means that the translation of any term is bound to be influenced by the source language (usually English or French), which sometimes forces terminologists to accept or adopt at least two Arabic equivalents for some technical terms.

1.1 Terminology and the Language Academies

As far as Arabic is concerned, a term is defined as an expression whose meaning is altered for certain purposes and this alteration is agreed upon by a specialized group. Al-Jurjani (1988 p. 28) defines the process of terminology as "an agreement among people to name a thing by using a word transferred from its original meaning". Khassara (1994 p. 102) adds that, "in Arabic, for an expression to be a term, there are crucial requirements: verbalism, meaning alteration and agreement". Term creation is the main part of translation which is an old craft in Arabic heritage. Translation activities can be traced back to the Arab Islamic Empire especially during the Abbasid Rule. Thus, there was a need for methods of creating and introducing new terms into Arabic to regulate the overflow of foreign terms. This comes as a result of the growing demand for translation due to the coexistence between Arabs and *a^cājim* (foreigners/aliens) especially, after the expansion of Islamic empire outside the Arabian Peninsula.

Nowadays, no discussion of Arabic terminology would be complete without a reference to the influence of Western languages upon the vocabulary of the language. It was originally because of the contact with European culture that lexical reform of Arabic was initiated. This influence was owing to the European ambitions of domination and expansion. This situation of Arabic accelerated the establishment of the language academies in the Arab world in order to deal with lexical reform which focused principally on scientific terminology. The first language academy in the Arab world was established in Damascus in 1919. Significantly it was called *al-majma^c al-ilmī al-arabī* (The Scientific Arabic Academy) (Emry 1982). Three other language academies were subsequently set up in different Arab countries like Egypt, Iraq and Jordan. This proliferation of institutions reflected a major problem in terminology creation in the Arab world such as duplication of effort and a consequent lack of uniformity.

2. Methods of Creating New Arabic Terms

Before the end of the first Islamic century, the Arabs had already expanded the area of their empire outside the Arab peninsula to include the major centers of civilizations of the time. This, of course, meant new challenges to their language as it had to compete with well-established languages such as Greek and Persian. During this time which was referred to as the golden age, Arab scholars and scientists came into contact with these languages through translation as they were translating medical, scientific and technical books from Greek and Latin into Arabic, which inevitably resulted in new expressions and new technical terms started to go through the language because of the transference of these sciences. This phenomenon had made it necessary for Arab grammarians and philologists to create and introduce new methods in order to face the challenge of foreign terms and neologisms to protect the purity of the language.

For instance, Al-Shihabi (1995) mentions some of these methods: (i) modifying the original concept of the word (semantic extension) to incorporate the new concept; (ii) deriving new expressions from original Arabic roots or from arabicized roots to designate new concepts and (iii) arabicizing foreign words according to the Arabic molds. Al-Khuri (1988) includes *al-naht* (blending) and *al-ištiqāq* (derivation) procedures. These methods are used by Arab scholars for what they called *al-tawlīd* (generation, literally: to give birth) which is the creation of a new word that does not exist either in the old or modern language.

Al-Shihabi (1995 p. 28) adds another method which is transferring (i.e., translating) foreign words with their meanings (loan translation) as well as arabicized foreign words and their meanings. The main methods discussed in this paper are: (i) *al-iṣṭiqāq* (derivation); (ii) *al-ta^Crīb* (arabicization); (iii) *al-naḥt* (blending) which can also be referred to as (compounding and coining) and (iv) *al-majāz* (metaphor/figurative speech). It remains to be mentioned that these methods were developed by early Arab scholars and grammarians in order to customize the new terms to suit the properties of Arabic.

2.1. al-'iṣṭiqāq (Derivation)

Derivation is a term used in morphology to refer to one of the two main categories or processes of word formation (derivational morphology), the other being inflectional (Crystal 1991). Basically, the result of derivational process is a new word, for instance: *nation* (noun) and *national* (adj.) whereas inflectional process results in a different form of the same word, for example: *nation* (noun) and *nations* (noun). A heated debate was raised among Arab scholars about the source of derivation in Arabic. For instance, Al-Baṣrah (city in Iraq) Arab scholars claim that infinitive is the source of derivation whereas Al-Kufah (also a city in Iraq) scholars state that the verb is the source of all derivatives in Arabic. However, the lexical meaning of derivation in Arabic is to create a new word from another. That is to say, it is the creation of new terms from word roots (radicals). Al-Marghani and Ibn-Faris (in Stetkevych 1970) are among Arab scholars who gave derivation special importance as one of the unique techniques employed to enrich Arabic vocabulary with new neologisms and as a practical method to improve Arabic vocabulary.

Derivation from existing Arabic roots has always been considered the most natural way of growth for the language (Ibid.). It is also described as a treasure as it is an inventive process for creating new terms in Arabic. Thus, Arabic is always looked upon as *luḡat al-iṣṭiqāq* the language of derivation (Fariḥah 1973). Stetkevych (1970) states that Arabic philology distinguishes three main forms of derivation: (i) *al-iṣṭiqāq al-ṣaḡīr* (simple derivation); (ii) *al-iṣṭiqāq al-kabīr* (wider derivation/metathesis). Metathesis involves a change in the position of the root consonants and the retention of the original meaning. In addition, a relatively new form of derivation is introduced: (iii) *al-iṣṭiqāq bi al-tarjamah* (circumlocution/paraphrasing) as one of the methods of producing numerous terms since the first Abbasid period. In the following discussion, it will be dealt with two forms, the first and third, as they are the most practical methods of terminology creation in Arabic (see also Elmgrab 2011).

2.1.1. al-iṣṭiqāq al-ṣaḡīr (Simple Derivation)

Simple derivation was used extensively during the Abbasid period for creating new vocabulary in the fields of philosophy, science and technology. It is the most practical process in creating new terms which has been used throughout the history of language. In this process, the radical consonants are not altered but are derived from and built upon. The roots of an Arabic word are traditionally represented by the three consonants, *fā'*, فاء (f) ^Cayn عين (C) and *lām* (l) ل ع ل (f-^C-l) according to *al-mizān al-ṣarḥī* (the morphological pattern). The simplest way of derivation is that all words share the same trilateral root of the verb *fa^Cala* (literally: to do) and they only vary in additional letters that function as morphemic indicators, for instance from the radicals *ḍ-r-b* (ض ر ب) we can derive the following forms: *ḍarb* (beat) (noun), *maḍrib* (place (noun)), *miḍrab* (bat), *ḍārib* (hitter) and *maḍrūb* (beaten).

The derived forms of the trilateral verb are usually fifteen. However, the last three forms are rarely used:

(i) fa ^C ala	فعل	(vi) tafā ^C ala	تفاعل	(xi) if ^C ālla	إفعال
(ii) fa ^{CC} ala	فعل	(vii) infā ^C ala	إنفعال	(xii) if ^C aw ^C ala	إفعوعل
(iii) fā ^C ala	فاعل	(viii) ifta ^C ala	إفتعل	(xiii) if ^C awwla	إفعوول
(iv) af ^C ala	أفعل	(ix) if ^C alla	إفعل	(xiv) if ^C anlala	إفعلنل
(v) tafa ^{CC} ala	تفعل	(x) istaf ^C ala	إستفعل	(xv) if ^C anlā	إفعلنلى

It is worth noting that the third person singular masculine perfective is the simplest form of the verb in Arabic. However, for the sake of shortness, it is rendered into English by the infinitive. For instance, the trilateral verb *fa^Cala* which means he did or he has done is changed into English as to do. Despite the fact that derivation should be made from verbal root only according to the classical rules, a new type of derivation was added to the existing one during medieval times. This kind is based on derivation from abstract nouns by adding a final suffix like *āniyyah* or *iiyyah* in order to coin a new word. This type is so productive in creating the abstract nouns:

<i>qur'āniyyah</i>	(Quranic)	from <i>qurā'n</i>	(Qur'an)
<i>mizāniyyah</i>	(budget)	from <i>mīzān</i>	(scale)
<i>mas'ūliyyah</i>	(responsibility)	from <i>mas'ūl</i> ,	(responsible person)
<i>ruhāniyyah</i>	(spirituality)	from <i>rūh</i>	(spirit).
<i>rahbāniyyah</i>	(monestristm)	from <i>rāhib</i>	(priest)
<i>jāhiliyyah</i>	(ignorance [of God])	from <i>jāhil</i>	(ignorant person)

Many primary concrete nouns, however, are contrary to the rule put forward by Arabic philology which indicated that the criterion of *al-qiyās* (analogy, literally: measurement) should not be allowed to be applied from nominal roots. This is because some of these derivational patterns described by some early Arab scholars as rather limited and not always applicable to the modern language. As far as Arabic phonology is concerned, the syntactic concept of *al-qiyās* may be defined as the method by which new words are formed or derived in accordance with already existing words. It is reported that early in the Islamic history a school of thought known as *al-mu^Ctazilah* (dogmatic Islamic group) advocated the idea that Arabic should be dominated by the concept of *al-qiyās*. The reason behind this is that "no sooner had the science of Arabic grammar been born that it (analogy) emerged as a binding rule powerful enough not only to explain, but also to correct and form" (Ali 2014 p. 23). Whenever talking about *al-qiyās* as a major characteristic of Arabic, we inevitably have to mention the syntactic concept of *al-samā^C* (hearing) which is commonly used in opposition to *al-qiyās*. Ali (Ibid.) explains that a term belongs to *al-samā^C* implies that it has an irregular form, i.e. it deviates from the recognized patterns used in derivation. We may passing the fact that *al-samā^C* is more powerful than *al-qiyās* because the overwhelming majority of Arabic linguists approved the idea that when *al-samā^C* is at hand *al-qiyās* becomes invalid (al-bağdādi, in Taymūr 2001).

Accordingly, patterns alone cannot cope with the radical changes in the grammatical features that Arabic has experienced at the present time. Certain measures have been taken by way of prompting and encouraging certain evolutionary features, thus aiming at stepping up the process of creating new vocabulary. Derivation from concrete nouns was immediately rejected in the past and it is hard to find noun-based derivations (Ali 1987). At present, noun derivation is widely used because it is considered as one of the most practical ways of introducing new terms in Arabic. For instance, from the following nouns we can derive these verbs:

<i>asad</i>	(lion)	<i>ista'sada</i>	(brave like a lion)
<i>ṣalābah</i>	(solidity)	<i>ṣallaba</i>	(to solidify)
<i>ward</i>	(flowers)	<i>tawarrada</i>	(to turn red with embarrassment)
<i>sijil</i>	(record)	<i>sajjala</i>	(to write down)
<i>^Cimlāq</i>	(giant)	<i>ta^Camlaqa</i>	(to become a giant)

The Arabic academy in Cairo has established some nominal templates *al-qawālib al-ismiyyah* to be used analogically for neologisms. Some instances are given as follows:

The template *fi^Cālah* فِعَالِه which has the meaning of craft; by inserting roots into this pattern we can derive the names of numerous crafts such as *tijārah* (trading), *tibā^Cah* (printing), *^Cimārah* (art of building), *ṣinā^Cah* (industry), *ḥidādah* (blacksmithery), *sibākah* (foundary worker's trade), *nijārah* (carpentry).

The template *fa^Clān* فَعْلَان should be used for terms denoting movement or emotion, like *tayarān* (aviation), *hayajān* (fury); *ğalayān* (boiling) and *ğathayān* (nausea).

The form *fu^Cāl* فُعَال should be applied for terms expressing illness, such as *zūkām* (cough), *juḏām* (leprosy), *nukāf* (parotitis), and *ru^Cāf*. (epistaxis; rhinorrhagia).

The template *fa^{CC}āl* فَعَال is to be used in deriving terms that denoting profession or characterize habitual activities, like *jarrāh* (surgeon), *tayyār* (pilot), *sawwāq* (driver) and *bahhār* (sailor) (Al-Hashimi 1354 H.). Numerous neologisms also have been coined by derivation in MSA, for example from the pattern denoting locality we have *maṣna^C* (factory), *maṭba^Cah* (press), *majma^C* (academy), *masrah* (theatre), *maṭār* (airport), *mawqif* (bus stop) and *mahattah* (station).

It is notable that this type of derivation is broadly used in other languages such as English especially in creating new scientific and technical terminology such as:

Computer	computerize	Standard	standardize
Hydrogen	hydrogenize	globe	globalize
Television	televise	Volcano	vulcanize

The verb *Enthuse* is also derived instead of the phrase *to be enthusiastic or to be excited*. Proper nouns are also been sometimes used for similar purposes. For instance, from the noun *Pasteur* the verb *pasteurize* is derived. The proper name *Boycott* is used as a verb in English to avoid the long phrase *to refuse to take part*.

Nevertheless, the theoretical potential of derivation as a means of word formation has not been matched by practical achievement. In the thirty year period up to 1965 the Academies of Cairo and Damascus sanctioned only 2500 derived items between them (Hamzaoui, in Emery 1982). On the other hand, this method of word coinage has led to duplication of technical terms in many cases. For instance, we have more than five derived terms for mobile phone: *mubāyil* (transliteration from English), *naqqāl*, *jawwāl*, *mahmūl*, *xilyawī*, (arabicized) *sililur* and *burtabl* (transliterated from the French *portable* and *cellulaire*).

2.1.2. Al-iṣṭiqāq bil-tarjamah (Circumlocution)

This method is also called *al-iṣṭiqāq al-ma^cnawī* (derivation of meaning). Circumlocution is a method of introducing new terms into Arabic by giving the meaning of the foreign term. It is a universal phenomenon in natural languages covering all aspects of vocabulary (Farghal 2005). This method which was one of the methods of producing numerous terms since the first Abbasid period has been formally recognized by Arab academies. This recognition results from the abundance of foreign terminology especially compound neologisms where conventional attempts to reduce them to one word term have failed. For instance, the noun *receptionist* is translated into Arabic as either *muwadḥaf* (masculine) or *muwadḥafat* (feminine) *istiqbāl* (literally, reception employee). Sometimes an English word is translated into Arabic through a whole statement, for example the term *burglar* is rendered according to Oxford English-Arabic dictionary as *liṣ yastu^c ala al-manāzil laylan* (a thief breaks into houses during the night). Similarly the following examples are also approved by the Arabic academies:

Cartoon	<i>rusūm mutaḥarrikah</i>	Video	<i>jihāz tasjīl marī</i>
Brakes	<i>makābih al-ḥarakah</i>	Microphone	<i>mukabbir al-ṣawṭ/laqīṭ al-ṣawṭ</i>
Fax	<i>barīd muṣawwar (nāsūx)</i>	TV	<i>iṮā^cah mar'īyah (mirnāh)</i>

Despite the fact that circumlocution is used to solve the problem of composite neologisms, it has also led to the problem of dualism of terminology in Arabic. This is because the translator or the neologizer is not bound by any rules while translating foreign terms. Many composite Arabic terms have variants or are not sufficiently current in their literary usage. For example, the phrase *conditioned reflex* is translated into Arabic sometimes as *al-in^cikās al-Ṣarī* and sometimes as *al-in^cikās alḍharfī* (Stetkevych 1970). Accordingly, circumlocution, unlike other methods, seems to be less adequate and leads to the multiplicity of terms due to the following: it produces longer terms than the original. It is usually a phrase and not a word that presents syntactic problems. In addition, translation of these neologisms often deviates from their real functional meaning. Some translators invent their own arbitrary translation which does not go with the Arabic moulds and rules.

In short, there is some kind of consensus among Arab grammarians that coining of new vocabulary through the realm of derivation should proceed according to three principles: (i) actual derivation from existing roots; (ii) derivation through the revival of archaic words to mean new concepts and (iii) coining neologisms through the paraphrasing of foreign terms. It is clear that noun derivation is broader than verbal derivation. In practice, however, verbal derivations may constitute between 10 and 25 percent of a given root (Stetkevych 1970). Theoretically speaking, verbal derivation is confined to the standard fifteen trilateral-root forms which give a small percentage of derived words from verbs, the rest fall into the category of the Arabic noun.

2.2. al-ta^crīb (Arabicization)

Translation of foreign works into Arabic is not a new phenomenon in the Arab world, it goes back in antiquity to the period extending from the beginning of the eighth century up to the end of ninth century. There were two famous schools of translation: the first was Baghdad school and the second one was established in Muslim Spain where interest in collecting translated works continued unabated. Arabicization comes as a result to revive Arabic in order to assume its position as the medium of administration, education and cultural activities. In this domain, we are confused with two English terms refer to *al-ta^crīb*: *arabicization* and *arabization*. Although some researchers use them interchangeably, the former is more appropriate due to the fact that it refers to Arabic whereas the latter refers to the Arab people. Arabicization by definition is the adaptation of non-Arabic terms to Arabic by applying the rules of the phonological and sometimes morphological systems of the language to the terms.

In Sayadi's (1985 p. 38) words "arabicization refers to lexical expansion which involves the rendering or coinage of new words either from existing roots, or through translation of foreign terms, and the adoption of already existing words through borrowing from foreign languages or reviving and revitalization of older usage in the same language". By the same token, Farghal and Shunnaq (1999 p. 23) define arabicization as "a kind of naturalization that takes place at sound level or the concept level. At sound level, the SL spelling and pronunciation are converted into Arabic ones. At concept level, SL concept is loan-translated into Arabic".

It can be said that arabicization is also the assimilation of foreign terminology through borrowing or translation. Stetkevych (1970) states that the assimilation of vocabulary of foreign origin was one of the most important factors which contributed to the rapid modernization of Arabic. Ali (1987) adds that among the methods of lexical expansion by MSA is the one traditionally known by the name of *al-ta^crīb*. For some Arab scholars arabicization is considered to be the most appropriate technique in creating and introducing foreign neologisms in Arabic and it can fulfill the following objectives: (i) to preserve the purity of Arabic and considered as a means of developing Arabic in terms of vocabulary; (ii) to standardize the scientific and technical terminology and (iii) to revive the Arabic-Islamic cultural heritage (Ghazala 2005).

In this respect, a distinction should be made between arabicization and transliteration. Transliteration refers to the conversion of foreign letters into the letters of the target language, i.e. it is the adaptation of non-Arabic terms into Arabic by applying the phonological and morphological rules of the language of the term. For instance, *computer* is transliterated into Arabic as *kumbyutar* and it is called *lafdh daxīl* (alien term) and not as an arabicized term like *al-hāsūb* (literally, calculator). It is worth mentioning that derivation from arabicized terms is generally restricted since they cannot be made to fit into the Arabic root and pattern system. The arabicized term *fāks* (fax) does not generate any pattern.

In this respect, Arab grammarians have set certain rules in order to find out whether the term is either arabicized or of Arabic origin. Nusayr (1982) summarized the criteria as follows: (i) the arabicized term must be produced with the structural moulds (*qawālib*) and patterns (*awzān*) of Arabic and be easy to pronounce by the native speaker of Arabic. For instance, the foreign term *birsīm* (fodder) does not follow the Arabic morphological pattern as it is not sharing the same Arabic trilateral root. Therefore, it is considered *lafdh a^cjamī* (foreign term). (ii) The meaning and referent of the term (the original term) must be agreed upon by more than one universal language such as English, French and German.

It is interesting enough to know that the family name of the French scientist *Louis Pasteur* has become an arabicized term. Therefore, from *Pasteur* we can derive the verb *yubastir* (pasteurize) and *bastara* (pasteurization) *mubastar* (pasteurized) *mubastir* (pasteurizer). Another example taken from Emery (1982) reads: the noun *uksīd* can also be applied to Arabic morphological rules so we can derive *yu'aksid* (oxidize), *aksada* (oxidation/oxidization), *mu'aksad* (oxidated/oxidized) and *mu'aksid* (oxidant/oxidizer).

In general, Arabicization is looked upon as an adopted method for introducing new terms into Arabic. It is the process of rendering foreign terms using Arabic forms. For instance, the following terms are arabicized via derivation from foreign roots, i.e. loanwords.

Philosophy	<i>falsafah</i>
Drachma	<i>dirham</i>
Asphalt	<i>isfalt</i>
Democracy	<i>dīmuqrāṭīyah</i>
Perestroika	<i>bristruyka/brustruyka</i> (reconstruction).

Thawabteh and Hreish (2014) give examples of terms arabicized via derivation from Arabic roots:

<i>al-r'uyyah</i>	(vision)	Form the Arabic root <i>ra'ā</i> (to see).
<i>al-Šafāfiyyah</i>	(transparency)	The derived noun does not exist in Arabic, but it has an Arabic root <i>Šaffa</i> شَفَّ meaning able to see through an object or thin substance.

Arabic terms should also follow Arabic phonotactics. The following are considered non-Arabic: Arabic terms do not start with the letter النون (n) followed by the letter الراء (r) as in the female names: *narjis* and *nirmīn* which are borrowed nouns. Arabic terms should not end with the letter الدال (d) followed by the letter, الزاي (z) as in *muhandiz*. This term should be written as *muhandis* (engineer) because the letter (d) is followed by the letter السين (s). Arabic terms should not be derived from the following morphological forms: *fu^calān* as in *khurasān* (a city in Iran) *fā^cīl* as in *hābīl* (Abel) *fā^cāwīl* as in *banāṭīl* (trousers) *fā^calān* as in *salmān* (male name).

However, such terms will remain Arabic words as long as they used the roots of their derivation, and as long as they are derived according to the patterns of Arabic.

In compliance with what we have seen above, the process of arabicization has to undergo certain changes in order to suit the Arabic phonotactics and graphological rules. This is also called naturalization which is the process of subjection of the foreign term to the Arabic phonological and grammatical systems. This procedure has the additional disadvantage that Arabic is often out of step with other major world languages which have generally adopted Latin or Greek terms in the binomial science classification. Arabicization is looked upon from different angles: anti-arabicization scholars claim that it may pollute the language with foreign terms and they considered it just a type of transliteration, while, pro-arabicization considered it enrichment to the language and as a means through which Arabic can regain its leading role in the modern world of today. This role can be procured by advocating MSA as a medium of instruction and research in higher institutions.

2.3 al-naḥt (Blending/Coining)

More often than not Arab as well as non-Arab writers use the term compounding to refer to a word formational process traditionally known in Arabic by the name of *al-naḥt* (Ali 1987). Blending is a term widely used in descriptive linguistic studies to refer to a linguistic unit which is composed of elements that function independently in other circumstances (Crystal 1991). There is some disagreement between Arab linguists as to the exact meaning of blending. For some, it must involve contraction and is therefore analogous to the English term blending whereas others use it to refer to straight forward compounding. In fact, blending is not a phenomenon peculiar to Arabic only but also to other languages such as English from which we extract the following: compound noun such as *walking stick*, *lamp-post*, *teatime*, *bedroom*, *rainfall* and *washing machine* as well as compound verbs as *come in*, *check out* and so on. Furthermore, the term compounding or compound may be accurately applied to blending or mixed compounding which in Arabic is referred to as *almurakkab al-majzī*. Jespersen (in Ali 1987) gives some examples in English: *blunt* (blind + stunt) origin unknown; *glaze* (glare + gaze) coined by Shakespeare from glass; *slide* (slip + glide) from Anglo-Saxon *slidan*. We may add: *brunch* (breakfast + lunch); *smog* (smoke + fog), *motel* (motor + hotel) and *transistor* from (transfer + resister).

On the other hand, blending is seen only as the merging of two words to form a word with a new meaning, for instance, *biology* which comes from two Greek words *bios* meaning life and *logos* meaning science. The Greek noun *geography* is derived from the Greek words *ge* meaning the earth and *graphei* meaning *to write*. Moreover, Fariḥah (1973) opposed the idea of blending. His argument is that if any of the original letters of a word have been dropped, its meaning will be completely violated. He (Ibid.) maintains that despite the fact that there are some useful words which are created by blending such as the famous Arabic term *barmāṭ* (amphibious) coined from *barr* (land) and *mā'* (water), we may not benefit from this linguistic phenomenon in Arabic.

Following Ibn-Faris, Al-Maghribi (in Al-Husari 1985) gives special consideration to *al-naḥt* to the extent that he regarded it as a form of derivation. However, blending cannot be a form of derivation because in the process of derivation a new word is derived from another word whereas blending is to derive a new word out of two words or more. He (Ibid.) divides blending into four classes: (i) *al-naḥt al-fi^cli* (verbal blending); (ii) *al-naḥt al-waṣṣṣī* (adjectival blending); (iii) *al-naḥt al-ismī* (nominal blending) and (iv) *al-naḥt al-nasabī* (reference blending).

First, *al-naḥt al-fi^cli* (verbal blending) is the formation of a verb representing a group of words that can be either nominal or verbal sentences. Consider the following verse from the Holy Qur'an: {*wa idā al-qubūr bu^crḠirat*} (30/4) (and when the Graves are turned upside down;). Here, the verb *ba^cḠara* (turned upside down) is coined from the verbs *ba^caḠa* (resurrected) and *uḠīra* (to stir the dust). Other examples such as *ḥawqala* from *lā ḥawla wa lā quwwata illa bil-lāh*. (There is neither might nor strength save in Allah); *sabḥala* as to say *subḥān allah* (we praise almighty Allah) and *basmalah* as *bismi al-lāh al-rahḥmān al-rahḥīm* (In the Name of Allah, the Beneficent, the Merciful mostly).

Second, *al-naḥt al-waṣṣṣī* (adjectival blending) is the formation of an adjective out of two words. These words may complete each other, providing the desired connotation or emphasis. Consider the following examples: *ṣildam* (strong hoofed) is composed of *ṣald* (hard) and *ṣadam* (striking); *dhabṭara* (strong man) is coined from *dhabata* (to control) and *dabara* (a tall and strong well-built person).

Third, *al-naḥt al-ismī* (nominal blending) consists of the formation of a noun out of two mutually complementing words, for instance: *julmūd* (big rock) is composed of *Jaluda* (to become strong) and *jamuda* (to become solid); *Šaqḥatab* (a ram with long horns) is coined from *Šaqqa* (cut) and *ḥatab* (wood).

Fourth, *al-naḥt al-nasabī* (reference blending) is the relation of someone or something to disparate places, schools, and so forth. For instance, *al-Šaf^cantī* is a person belonging to the *al-Šāfi^cyyah* school and *ḥanfantī* is a person belonging to the *abu-ḥanīfah* school. These two schools represent slightly different Islamic doctrines.

This type of abbreviated compound was primarily reserved for religious phrases rather than to derive new scientific terminology. It should be mentioned, in this respect, that blending is based on *al-samā^c* (hearing transfer) and *al-qiyās* (analogy) which means that there are no fixed rules for coining new terms. However, and as can be seen from the above examples, most of the coined terms are originally verbs or infinitives which derived from quadruped roots. Khalaf Allah and Shawqi (1969) present the following rules to be followed to the extent possible in constructing blending: (i) to use in this process, as much as possible, original letters of the terms involved; (ii) if the derived term is a noun, it must agree with one of the noun patterns and (iii) if the derived term is a verb, it must follow the pattern *fa^clala* or *tafa^clala*.

2.3.1 The Applicability of *al-naḥt* in Creating Arabic Terms

With regard to the possibilities of blending in the present situation of the language, it can be applicable in the sphere of modern terminology. Some Arab scholars see blending as a useful method that should be employed not only in the field of science and technology but also for the language in general. Arabic can exploit this method to form compound words by means of prefixes (Al-Husari 1985). For instance, the practical negative device *lā* لا (literally: not) is used as a prefix to form useful Arabic terminology. It does similar function to that of such English negative prefixes as: *a-*, *ir-*, *de-*, *in-*, *non-*, *un-*, *anti-*, etc. and the suffix *less*. To mention but a few:

<i>lā-axllāqī</i>	(amoral)
<i>lā-dinī</i>	(irreligious)
<i>lā-markaziyyah</i>	(decentralization)
<i>lā-silkī</i>	(wireless)
<i>lā -fikriyyah</i>	(thoughtlessness)
<i>lā-insānī</i>	(nonhuman)

It can be added that formation like these may also be used with the definite article *al* (the) as in *al-lāwa^cī* (unconsciousness) and *al-lāshu^cubiyyah* (anti-Arabism). Similarly, the word *ḡibb* (after) can replace the English suffix *post* as in *ḡibmadrasī* or *ḡibmadrasa* (post-school) and *ḡibjalādī* or *ḡibjalād* (postglacial). The English prefix *pre* can be replaced by the Arabic prefix *qab* from the word *qabla* (before). Thus, we should obtain *qabtārīkhī* or *qabtārīkh* instead of *māqabla al-tārīx* (prehistory) and *qabislām* instead of *māqabla al-'islām* (pre-Islamic).

On the whole, it is interesting and indicative to mention that some of these words created by blending or as it is called *al-manḥūt* (the coined term) is generally accepted among Arab speakers despite the fact that there are almost no certain rules governing the process of blending. Nonetheless, blending can create new terms in Arabic because it has a wide range of usage to express different concepts. One of these concepts is to create Arabic acronyms. Acronyms are words derived from the initial letters of several words, such as *radar* (radio detection and ranging) and *laser* (light amplification by stimulated emission of radiation). Normally, an acronym is transliterated as a loanword.

In this respect, Standard Arabic benefits from the recent attempts to use some Arabic letters to replace their full items. In recent years blending has produced the Arabic modified acronyms. It is used for creating new Arabic terms, names of establishments and bodies such as: *istamata^ca* which stands for *sami^ca* (listened) and *tamata^ca* (enjoyed), *ḥamās* which stands for *ḥarakah musalaha islāmīyah* (Armed Islamic Movement) HAMAS, *wafā* which stands for *wakālat al-Anbā' al-filistīniyyah* (Palestinian News Agency). and *dā'Š* (ISIS) *dawlah islamiyah fi al-irāq wa al-Šām* (Islamic State in Iraq and Syria).

It remains to be added that despite all examples given above blending remains the least effective technique in creating new terminology in Arabic. This seems to be attributable to three main reasons: first, the nature of Arabic itself which has fixed rules and patterns that cannot be altered or ignored easily for the sake of this process. Second, blending, unlike other techniques, is not used exhaustively in Arabic because there are no agreed upon rules to govern its process.

Third, Arabic is looked upon as the language of derivation therefore, in some instances, it does not accept new words that are coined by the process of blending. This is because they seem to be awkward and ambiguous due to the fact that most of the words created by blending do not follow the pattern of the trilateral root (Elmgrab 2011).

2.4 *al-majāz* (Metaphor/Figurative Speech)

Figurative speech like metaphor and metonymy can be useful in creating new words in Arabic. *al-majāz* is also called *istinbāt* (deduction), the use of native lexical resources to revive archaisms and semantic extension for the scientific terms. Archaic words are used to denote new concepts and consequently to abolish the old extinct ones. *al-majāz*, therefore, is the altering of the meaning of existing terms, i.e. "this technique takes an existing Arabic term and modifies or extends it to encompass a new meaning" (Nasr and Leaman 2002 p. 909). In *al-ta^criib*, terms are borrowed from other languages to be used generally within the same discipline whereas *al-majāz* often involves borrowing terms from the same language to be used in different disciplines.

Early examples of *al-majāz* method were successful, for instance the noun *qātira* which originally denoted a she-camel leading line of camels and, by figurative extension, was applied to a railway train. Another example is *jarīdah* which in Classical Arabic meant a stripped palm branch used for inscriptions and came to mean newspaper. The noun *tayyarah* denoted a very fast mare was applied to airplane. Similarly, the term *irq* (vein) originally meaning root of a plant acquired the medical meaning of vein probably owing to analogy of form and function. The archaic noun *sayyarah* denoting a caravan travelling in the desert was applied to car. Also the noun *hātif* meaning invisible caller was replaced by the transliterated foreign term *tilifūn* (telephone) and it is widely used among Arabs. Al-Masdi (1994) regards this procedure as a healthy sign and a new mechanism to enrich scientific vocabulary in Arabic.

Conversely, the method is usually limited to concrete material meaning of a term. In addition, many terms proposed by the academies failed to become accepted in the language. Examples of this include *irzīz* (the sound of rain or thunder) for telephone and the long phrase *Šātīr wa maŠtūr wa/wa mā baynahumā tājaj* for sandwich. The English noun *sandwich* (a name of a gambler) and the French noun *pantaloon* (a name of a theater actor) are both transliterated into Arabic as *sandawitš* and *bantalūn*, the latter is arabicized via loanword as *bintāl*.

3. Conclusion

I conclude that in spite of the laudable efforts of the Arab grammarians to ensure that terminology creation should be initiated from within the lexical resources of Arabic, it is probable that the scientific terms have been rendered into Arabic by loan translations or direct loans. It seems that the Arab academies acknowledged the inevitability of borrowing as they unanimously agreed guidelines on the correct methods for adapting foreign terms into Arabic. But, we have to admit that these academies have managed to bring some order out of the previous chaos.

We have seen that *al-ishtiqāq* (derivation) has played its role in dealing with the creation of Arabic terms. Its applicability results from the recent technological developments which have taken place in the Arab World. A need has arisen for the transfer of technical concepts into Arabic in many fields. Derivation might be regarded a less attractive option owing to the lack of coordination among Arab neologizers and academicians which has led to the abundance synonymous terms.

al-t^criib has also served Arabic as one of the most practical method of creating Arabic neologisms and terminology since the beginning of the nineteenth century when the role of Arabic as a transmitter language began to decline. Arabicization is more effective in handling new technical and scientific terms than both derivation and blending. This is because it can deal with a mono-morphemic word by applying certain rules, whereas in a compound morpheme it seems to be difficult to apply the same rules. In addition, arabicization is more flexible and less obstructed by the Arabic morphological patterns and templates.

al-naht can play its role effectively in handling foreign affixation and as a useful device for abbreviating long-winded Arabic terms, but the Cairo based Arabic Academy have put forward some restrictions to be followed during the process of blending: firstly, it must be used only for scientific necessity *lildarūrah al-^cilmiyyah* and secondly, it must be coined according to Arab taste *al-^cdawq al-^carabī*. The process of blending is less productive than derivation and arabicization due to the fact that it has not been described by the Arab grammarians as a customary method of forming new terms. Yet, there has been no direct statement by Arab philologists as to the acceptability of blending as a productive method of enriching Arabic with new terms.

al-majāz could be of great help in creating new terms by reviving archaisms and semantic extension for the scientific terms. Although it is preferred by the academies in introducing new terms, it is limited to the material meaning of the term and many terms created by these academies failed to be accepted by Arab speakers.

Finally, Arab academies as well as some other prominent translators are influenced by different foreign cultures, mainly English and French, which have resulted in different translated terms. Therefore, the Arab academies should take into consideration the following factors in translating foreign terms: they should consider the social use of language because people usually prefer easily pronounceable terms to difficult ones. Compound terms with difficult structures should be avoided because short terms are more preferable than long ones.

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Appendix

Transliteration

The following Arabic transliteration system has been employed throughout this paper

Arabic	Transliteration	Arabic	Transliteration
ا	a	ط	t
ب	b	ظ	dh
ت	t	ع	c
ث	Θ	غ	g
ج	J	ف	f
ح	h	ق	q
خ	x	ك	k
د	d	ل	l
ذ	ð	م	m
ر	r	ن	n
ز	z	ه	h
س	s	و	w
ش	Š	ي	y
ص	ṣ	ء	'
ض	ḍ		

Short Vowels

Arabic

◌َ
◌ِ
◌ُ

Transliteration

a
i
u

Long Vowels

ا
ي
و

ā
ī
ū