CHAPTER I

INTRODUCTION

1.0 Introduction

Morphology hands out with the systematic correspondence between the form and meaning of words. Thus, two major frameworks are involved when studying such regularities (i.e. inflection and word formation). Inflection deals with the expression of morphosyntactic properties while word formation concerns the coining of new (complex) words via different morphological processes (i.e. affixation, blending, compounding, etc.). Morphology is also very relevant for the typology of words which takes different forms (i.e. simple, complex, and compound) according to the morphological mechanisms they undergo. Some morphological processes and mechanisms in Arabic are responsible for creating new words in the language (i.e. word-formation processes). The present study is an attempt to investigate the representations of words used either in the scientific and technical terminology of Modern Standard Arabic (MSA) and those neologisms used in different sources, chiefly in the Arabic mass media.

Morphology is the dominant sub-discipline which studies word structure. It is at the conceptual centre of linguistics. Words are at the interface between semantics, phonology, and syntax. They consist of meaningful smaller pieces as well they have phonological properties that articulate together in order to form larger syntactic units such as clauses, phrases, and sentences.

We must explain the meaning of word, before going any further. It is difficult to form a definition of the word, that is satisfactory for all languages and all items that seem to be words. Hence, in the same fashion, we will describe the notion 'word' in terms of properties of prototypical words, accepting that our definition is unfit enough for some situations. Typically Words are morphological objects, it is to say that words are formed by combining morphemes to each other's according to the rules of morphology. Morphology, the study of the internal structure of words, deals with the forms of lexemes (inflection), and with the ways in which lexemes are formed (word-formation).
Morphology refers to the study of the internal structure of words according to the modern linguistics, as well it is the study of the systematic form–meaning correspondences between words. We may take in consideration that Arabic words are generally based on a "root" which uses three consonants to define the underlying meaning of the word. Various vowels, prefixes and suffixes are used with the root letters to create the required inflection or derivation of meaning. Every set of root letters can lead to a large number of words that can be predictable in form and all related to the basic meaning of the three root letters. For instance, the root k-t-b has the basic meaning of writing, marking or inscribing. The root may be conjugated in simple past tense (perfect) verb forms as the following:

\[
\begin{array}{ll}
\text{yaktubu} & \text{he writes} \\
\text{yaktubuuna} & \text{they write} \\
\text{taktubu} & \text{you write} \\
\text{naktubu} & \text{we write} \\
\text{n\u{a}ktub} & \text{write} \\
\end{array}
\]

The vastness truly starts to be seen as additional forms like verbal nouns are created from the same simple root k-t-b to characterize things like:

\[
\begin{array}{ll}
\text{kaatib} & \text{writer} \\
\text{kitaabah} & \text{the act of writing} \\
\text{kitaab} & \text{some writing, book} \\
\text{kutub} & \text{books} \\
\text{kutubii} & \text{book dealer} \\
\text{kutayyib} & \text{booklet} \\
\text{maktuub} & \text{letter} \\
\text{maktab} & \text{school, office} \\
\text{maktabah} & \text{library, literature} \\
\text{maktabii} & \text{individual office} \\
\text{miktaab} & \text{typewriter} \\
\text{mukaatabah} & \text{correspondence} \\
\text{iktitaab} & \text{registration} \\
\text{istiktaab} & \text{dictation} \\
\end{array}
\]

According to the above set of words, we can observe that the form differences have a syntactic and phonological dimensions, while the meaning difference is quite clear, and have some extra meaning due to the presence of the non-concatinative additions. Since
the words are formally and semantically more complex than the root forms. That is to say there is a direction in the relationship between all the above mentioned words.

As mentioned above in the definition of morphology the notion ‘systematic’ is important. For example, we might observe a form difference and a corresponding meaning difference between the English noun ‘ear’ and the verb ‘hear’. However, this pattern is not systematic: there are no similar word pairs, and we cannot form new English verbs by adding h- to a noun.

We can see two different perspectives in our definition of morphology as given above. When we speak about morphology as the study of the systematic form–meaning correspondences between the words of a language, we take a paradigmatic perspective, since we take the properties of classes of words as the starting point of morphological analysis. But we take a syntagmatic perspective when morphology is defined as the study of the internal constituent structure of words.

We differentiate these two distinct perspectives on language because language units show syntagmatic and paradigmatic relationships. They have a syntagmatic relationship when they are joined into a larger linguistic unit. For example, the words /iqraʔ/ 'read' and /kitaab/ 'book' have a syntagmatic relationship with the phrase /iqraʔ al kitaab/ 'read the book'. In contrast, the verbs /iqraʔ/ 'read' and /iftah/ 'open' are paradigmatically related: they belong to the set of verbs of Arabic, and can both occur at the beginning of a verb phrase, but never together: */iqraʔ iftah al kitaab/. Thus, they belong to the paradigm of Arabic verbs.

An obvious instantiation of a primarily syntagmatic approach to morphology is morpheme-based morphology. In this approach, the concentration is on the analysis of words into their constituent morphemes. That is to say, morphology is conceived of as the syntax of morphemes, as the set of principles for combining morphemes into words.

Morphemes are the morphological building blocks of words, can be defined as the minimal linguistic units with a lexical or a grammatical meaning. For example, the noun /alkitaab/ 'the book' consists of two morphemes, /al-/ 'the' and /kitaab/ 'book'. The nominal morpheme /kitaab/ is known as a free or lexical morpheme, because it can occur as a word by itself, whereas /al-/ is an affix (thus a bound morpheme that cannot function as a word on its own). This is indicated by the hyphen following this
morpheme: it requires another morpheme to appear after it in a word. Each of these morphemes is listed in the Arabic morpheme list: /al-/ as an affix morpheme of the category Determiner (D) morpheme, that is specified as occurring before Nouns: [— N], and the morpheme /kitaab/ of the category Noun (N). This specification of the affix /al-/ assigns it to the subcategory of affixes that combine with nouns, and hence we call it a sub-categorization property of this affix. The morphological structure of /alkitaab/ might be represented as follows:

\[
[ [al]D-affix [kitaab]N]= [alkitaab]N
\]

Figure: (1.1) The morphological structure of /alkitaab/

This complex word can be created by the general mechanism that is called concatenation, the combination of elements into a linear sequence. This word is well formed because the requirement that /al-/ occur before a noun is met, and this combination of morphemes is a noun. However, in spite of the existence of the concatenative system in Arabic morphology (i.e. inflectional Arabic morphology), but the morphology of Arabic is still known as non-concatenative or non-linear.

Hence, the language user is able to coin new polymorphemic words (words consisting of more than one morpheme) through the concatenation of morphemes, and of morphemes with words that are themselves polymorphemic.

An instance of the latter is the formation of the verb /yaktubuun/ 'they write', itself derived from /yaktub/ 'write' through the addition of /–uun/ which is the general plural ending. The formation of /yaktubuun/ is not a matter of concatenating three morphemes. Instead, it is a two-steps operation. First, the bound morpheme /–uun/ has been added to the simplex noun /yaktub/, resulting in the noun /yaktubuun/. In short, morphology might be seen as the set of principles that tells us how to combine free and bound morphemes into well-formed words. The established (simplex and complex) words of a language that are listed in the lexicon, an abstract linguistic notion, to be distinguished from the notions 'dictionary' and 'mental lexicon'.

An exceptional challenge for the morpheme-based approach to morphology is the presence of morphological processes that do not consist of the concatenations of morphemes, that is called non-concatenative morphology. The past tense forms of English irregular verbs, for example, are not made, through addition of a morpheme to
a stem, but by replacement of vowels as in "sing-sang", and "grow-grew". Another example (taken from Kutsch Lojenga 1994: 135) is that Ngiti, a Central-Sudanic language of Congo makes use of tones to distinguish morphologically related words. The plural form of a number of nouns is made by replacing the tones of the last two syllables (a sequence of a Mid tone and a Low tone) of the singular noun by a High tone.

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>ma`limo’</td>
<td>mali`mo’ “teacher(s)”</td>
</tr>
<tr>
<td>kama’</td>
<td>ka`ma’ “chief(s)”</td>
</tr>
<tr>
<td>ma<code>la</code>yika’</td>
<td>ma<code>la</code>yi’ka’ “angel(s)”</td>
</tr>
</tbody>
</table>

As well, it is common in Semitic languages such as Arabic and Hebrew, the use of non-concatenative word formation (WF) processes. That is to say these processes in which morphemic units are not only linearly strung one after the other but are superimposed upon each other too, such that every surface form is necessarily morphologically complex and its component morphemes are discontinuous.

The nature of word formation in Arabic covers three notions: root, pattern, and form (Moutaouakil,1987). Word forms for instance: verbs, verbal nouns, agent nouns, etc, are gained from roots by applying derivational rules to get corresponding patterns. However, each pattern carries a meaning which, when combined with the meaning inherent in the root, gives the goal meaning of the lexical form. For instance, the meaning of the word form /kaatib/ ‘writer’ is the combination of the meaning inherent in the root /kataba/ ‘write’ and the meaning carried by the pattern /fiiGil (ف-ا-ع-ل)/that is the pattern of the doer of the root. The series of lexical forms structured from the same root constitutes what is traditionally known as a (morpho-semantic field). All the members of this field share the same basic meaning that is potential in the root, and are semantically distinct according to the meaning carried by the patterns by which they are structured. Hence, Arabic has the characteristics that from one root the inflectional and derivational systems are able to result a vast number of words (lexical forms) each having specific semantics and patterns. A morpheme is the minimal meaningful unit in a language. If the morpheme can function alone, such as the word /mohandis/ ‘engineer’, it is known as (free morpheme). While some other morphemes cannot be used by themselves, like in the general plural ending /-uun (ون-)/ and the letters /uun/ in
/mohandisuu/'engineers'. Such kind of morphemes are known as (bound morphemes). In Arabic, bound morphemes serve as additions at the beginning or ending of a stem as prefixes or suffixes. Using the definitions of free and bound morphemes, an inflected word can be defined as a complex form which is a single free morpheme combined with one or more bound morpheme. While a word can be defined as a single free morpheme.

Marslen-Wilson, Tyler, Waksler, & Older, 1994; Spencer & Zwicky, 1998; Taft, 1994) proposed that Morphology as a study of the internal structure of lexical elements, focusing around the issue of whether the unit underlying lexical access and representation is the morpheme or the phonetic word. Most of what we know about morphological processing and representation, however, relates to a few Indo-European languages, especially English. In the case of such languages, morphologically complex items are normally formed by concatenating morphemic units in a linear manner, with the consequence that morphologically related words-as in the English "car/cars" and"brother/brotherhood"are normally also phonologically, orthographically and semantically related. This drives to potential problems in empirically dissociating morphological impacts from other sources of relationships between word.

These problems can be resolved by examining the role of morphology in language families whose morphological systems render this potentially confusing less severe. A specially productive chance is provided by Semitic languages such as Hebrew and Arabic, that use non-concatenative WF processes. That is to say these processes in which morphemic units are not only linearly strung one after the other, but are superimposed upon each other too, such that every surface form is necessarily morphologically complex and its component morphemes are discontinuous.

This characteristic, compounded by the richness and the explicit nature of Semitic morphology, makes those languages a favorable field to discuss, authentic morphological effects. Actually, Semitic languages, particularly Hebrew have provided some of the most compelling evidence yet in favor of a morphemic lexicon (e.g. Frost, Forster, & Deutsch, 1997).

In the present study we address the question of morphological representation and processing with reference to Modern Standard Arabic (MSA). A Semitic language common to all literate speakers in the Arab world and used in the media, literature and all formal settings (Ferguson, 1959; Holes, 1995; Versteegh, 1997).
According to the accounts of Arabic morphology on the earliest philology, there are two morphological units governing the structure of the language, namely a three-consonantal root and a word pattern (Holes, 1995; Versteegh, 1997). For instance, an item like [naqala] 'move' is a surface form analyzed as comprising a root morpheme {nql} and a pattern {fašala}, as the generic consonants /f,š,l/ indicate the slots into which the first, second and third consonants of the actual root are inserted, given the pattern of vowels and consonants specified by the word pattern. The superiority of productive paradigms like [naqala] 'move', [naaqilun] 'one who moves', [nuqlatun] 'a move', [nuqila] 'be moved' in which all the surface forms show a strong semantic overlap and share three consonants is cited as proof in favour of the root. As well as, the existence of forms such as [kaatibun] 'one who writes', [qaatilun] 'one who kills', [naaqilun] 'one who moves' etc., which share the active participle pattern {fašilun}, speaks in favor of the word pattern being an organizational unit of the language.

Regardless the long-standing success of this early analytic model, it is arguably imperfect in a minimum of two basic respects. According to this view the first basic problem is that it is incapable to specify the relationship underlying derived word forms such as [haaʤama] 'attack', [huudʒima] 'be attacked' or [naqala] 'move', [nuqila] 'be moved'. 
Thus, the first two forms are two distinct realizations of the root \{hḏm\}, and the second two word forms are different realizations of the root \{nql\}. While the word patterns, it has to assume the existence of four independent patterns, which are \{faṢala\}, \{fuṢila\}, \{faaṢala\} and \{fuuṢila\).

However, it is obvious that each active-passive pair accounts for the same shift in the internal vowel sequence with 'u-i' in the passive and 'a-a' in the active and this shift is only in vowel sequence that underlies the active-passive opposition. It is on the basis of debates like this that McCarthy (1979, 1981), working within the framework of autosegmental phonology (Goldsmith, 1976), proposed an analysis of Arabic surface word forms on the basis of comprising three morphemes. These three morphemes namely the vocalic morpheme which consists of vowels contain syntactic information, the second is a skeleton that is a canonical template of consonant-vowel sequences conveying information about the timing units of the word and the third is the root morpheme consisting of three consonants which convey semantic meaning. For instance, the surface form [kataba] is claimed to involve the vocalic morpheme \{a-a-a\}, the skeletal morpheme \{CVCVCV\} and the root morpheme \{k-t-b\} as shown in figure (1.2).

The other blemish in the root and pattern account of Arabic lies in its disability to capture the relationship among forms such as [balata] 'sever', [bataka] 'separate',
[sabata] 'cut down', [batta] 'cut off', [batara] 'sever'. All these word forms share only two consonants (/t/ and /b/) and would simply be considered as being based on five different roots ({blt}, {btk}, {sbt}, {btt}, {btr}), despite they show the semantic and phonological overlap typical of surface forms sharing a single root morpheme. Bohas (1997, 1999) debates on the basis of such ordinarily occurring paradigms that the use of three-consonantal root as the lowest level unit fails to capture substantial regularities in the Arabic lexicon. In order to solve this, he proposes a bi-consonantal unit called the etymon as the cornerstone of Arabic morphology.

All we can say that previous studies on the influences of morphological units on language processing and representation in non-concatenative morphology languages such as Arabic and Hebrew, owes a great deal to Frost, Deutsch, Forster and their collaborators, who have concentrated on Hebrew morphology. For instance, on the basis of a series of masked priming experiments, Frost et al. (1997) found that the three-consonantal root governs lexical retrieval in nouns, while the word pattern morpheme does not. In verb morphology, Deutsch, Frost, and Forster (1998) have gotten simplification effects in lexical decisions and in naming when the targets and the primes shared either a word pattern or root morpheme in verb morphology.

There two functions of Morphological rules, namely, they indicate how new words and word forms can be made as well to specify the predictable properties of the complex words listed in the lexicon. Morphology as a sub-discipline of linguistics aims to obtain an adequate language description. The paradigmatically oriented definition of morphology that is given before expresses that morphology is lexeme-based. Lexemes from the point of departure of morphological processes. In lexeme-formation (or word-formation), we create new lexemes on the basis of other lexemes, whereas in inflection, specific forms of lexemes are computed (instead of lexeme formation we will speak of word-formation when there is no risk of misunderstanding). The operations of inflection and word-formation together form that morphological part of a grammar. Morphology study words at the level of words, and deals with the form and structure of words; at this position form mean the smallest grammatical units and their formation into words.

Nida (1948) gives the following definition to Morphology:

"Morphology is the study of morphemes and their arrangement in forming words"
It is to say that morphology seeks to concentrate on how words are formed. For the parsing of complex word forms, Nida (1949) suggested six principles for identifying the component parts of such words and for formulating the nature of those parts.

Nida (1948) confirmed that:

"Forms which have a common semantic distinctiveness and an identical phonemic form in all their occurrences constitute a single morpheme".

We can cite the example of the following sets of words in order to elaborate this point further:

<table>
<thead>
<tr>
<th>(A) Simple</th>
<th>(B) Complex</th>
<th>(C) Compound</th>
</tr>
</thead>
<tbody>
<tr>
<td>/radʒul/ 'man'</td>
<td>/fatataan/ 'two girls'</td>
<td>/ʔamiru-lmuʔminiin/ 'Emir of believers'</td>
</tr>
<tr>
<td>/raʔs/ 'head'</td>
<td>/dʒulmuud/ 'boulder'</td>
<td>/makkah - almokarramah/ 'mecca'</td>
</tr>
<tr>
<td>/maaʔ/ 'water'</td>
<td>/lasilkiy/ 'wireless'</td>
<td>/raʔiisu-lwuzaraʔ/ 'prime minister'</td>
</tr>
<tr>
<td>/ʔax/ 'brother'</td>
<td>/kahrobašariy/ 'electro-optic'</td>
<td>/safinatu-faʤaaʔ/ 'spaceship'</td>
</tr>
<tr>
<td>/milh/ 'salt'</td>
<td>/fawqašiy/ 'prosodic'</td>
<td>/naaṭhat- sahaab/ 'skyscraper'</td>
</tr>
</tbody>
</table>

Table:1.1  Simple, complex and compound words in Arabic

In columns (B) and (C), a set of words is listed. These words are composed by joining smaller elements to form larger words with more complex meanings. As stated earlier, these words are morphologically termed as complex words. For example /fatataan/ can be analyzed as being composed of noun /fatat/ 'girl' and the ending /-aan/ (feminine dual marker), the noun /kahrobasariy/ 'electro-optic'can be analyzed as being formed from /kahro-/ which is a part of the word /kahrobaʔ/ (electricity) by the attachment of the word /bašariy/ 'optic', and /fawqašiy/ 'prosodic' as the composition of /fawq/ 'above' attached with the noun /qašiy/. After analyzing these few words, we can say that
complex words are decomposable into their smallest meaningful units. These smallest meaningful units of a language are called morphemes.

It notes that Morphology deals with both the form and the meaning of linguistic expressions. Thus, one might qualify morphology as word grammar, that part of the grammar that accounts for the systematic form–meaning relations between words. In other words, it is a set of correspondence rules between forms and meanings of words. The notion 'word grammar' stands in opposition to 'sentence grammar', the grammar which describes the systematic relations between form and meaning at the sentence level. The two basic functions of morphological operations are:

- The creation of new words (i.e. new lexemes), and
- Spelling out the appropriate form of a lexeme in a particular syntactic context.

Hence, morphology provides a means for expanding the set of words of a language in a systematic manner. The coining of /raʔii-su-lwuzaaʔ/ 'prime minister' is a case of compounding, in which two lexemes /raʔii/ and /alwuzaraʔ/ or combined together, in order to construct a new word form.

An important question should be mentioned here which is, Why do we need new words? An explicit reason is that language users need a new expression of a new concept, or for a new object. Whenever there is a new kind of entity or a concept, it seems easy to be able to refer to that concept with one word, instead of using a circumscription. Hence, we can say that word-formation has a labeling function.

Creating a word label for a new kind of property, entity, or event may have extra pragmatic advantage that it draws attention to the new concept involved.

For example, the word /šilmul -ʔašwaat/ has been created to denote (phonetics; the literally 'science of sounds') in which the notion 'phonetics' plays a major role. By coining this label, a new expression has been established, and hence its ideas will draw attention more easily. New verbs have been coined in order to express new types of actions, events or concepts, as in the Arabic verb /talfaza/ 'to televise'.

The syntactic re-categorization is another important function of word-formation, by using morphologically related words of different syntactic categories, we achieve stylistic variation and text cohesion.
The function of morphology is to characterize individual morphemes, that may be words or may be parts of words, and analyze their meaning and lexical function. To clarify, the function of morphology is to identify the constituent parts of words like for instance, /fataaan/ 'two girls', which can be decomposed into two constituents the word /fataah/, for 'girl', to which the Arabic suffix /-aan/ has been affixed, with the second. We now know the morphemes in (complex) /fataaan/ are two in number. Another example, the /laasilkiy/ "wireless" that is constructed from /laa-/ "no- negative particle", which is originally a free morpheme, but it has been used recently as a prefix in such nouns" (Al-Najjar, 2012; 613), and /silkiy/ "wire".

1.1 The Morpheme

As stated earlier, the morpheme is defined as the smallest meaning-bearing unit. It is a minimal unit of meaning because it cannot be further broken down into smaller meaningful units. For example, /almodarris/ 'the teacher' can be divided in a number of way, e.g., /al-modar-riss/, /alom-darris/, /almodriss/, but none of these divisions produces two meaningful units. Further division only results in phonological units, devoid of predictable or consistent meaning.

There are two characteristics that most typically indicate the presence of a common morpheme across words that are a common phonological string and similar meanings. Words that only share meaning components, such as given below those in (A), or only share a phonological form, such as those in (B), do not necessarily contain a common morpheme.

(A) i). /kursii/, /maqąd/ 'chair'
ii). /sayf/, /hosaam/, /sarim/ 'sword'
iii). /ʤimaa/, /킴/ 'camels'

(B)i). /barq/ 'lightning', /farq/ 'difference', /harq/ 'burning'
ii). /sawm/ 'fasting', /qawm/ 'folks', /nawm/ 'sleeping'
In addition to capturing a relationship between words such as /silki/ and /lasilki/, morphemes have been argued to allow for a more economical storage system. The store for morphemes and/or words in memory is known as the lexicon.

Since the economical storage was quite valued, predictable information, like the harmonious form and meaning between two related words, was missing from the lexicon. Redundant full word representations such as happy, unhappy, happiness, happily, unhappiness, unhappily, etc, were replaced with economical morpheme representations, which are {happy}, {un-}, {-ness}, and {-ly}, that can be combined to create expected complex words.

Morphemes also serve to capture significant linguistic generalizations and patterns. The generalization that many singular nouns in English have a plural form that ends in [-s] is lost if a plural morpheme is not posited. These generalizations can also serve as the bases for new word creation and understanding. If a newly created invention is called a sneed, knowledge of English morphology will allow a speaker to create the plural form sneeds (Melinger. A, 2001).

This also can be found in the morphology of Modern standard Arabic (henceforth Arabic), but the case is different in Arabic for a number of reasons. First, morphology of Arabic is complex, as many non-concatenative morphological processes make significant structural changes to the base form. In addition, there are many possible patterns for some morphological processes. This system is ripe for studying generalization, as speakers must abstract complex morpho-phonological patterns in order to generalize to new forms, and the decision space for deciding on the appropriate pattern to apply is large (Dawdy-Hesterberg, 2014).

Furthermore morphological knowledge serves to explain how speakers know that some combinations of morphemes such as *tionmovity and *happyity do not exist, although they may not be able to explain why they do not exist. Whereas it characterizes the types of morpheme combinations which are permissible in a language.

Each and every word consists of at least one morpheme and many morphemes can be words. Morphemes that can stand alone as a meaningful words, such as in /xubz/ 'bread', /ʔswad/ 'black', are known as free morphemes. While morphemes that cannot stand alone, such as the affixes in /-uun/, /-iin/ 'variants of masculine plural', are known as
bound morphemes. Free morphemes are usually content morphemes, and in agreement with concepts denoted by the major lexical categories of nouns, adjectives and verbs. Whereas bound morphemes can be content or function morphemes.

Al-Najjar (2012), states that Arabic bound morphemes, that are used in derivation and inflection, cover prefixes, suffixes, proclitics, enclitics, discontinuous morphemes, zero morph, case markers, and mood markers.

Arabic exhibits affixes such as /laa-/'no, not', /laa-filiz/ 'nonmetal', and adjectives such as /laa-ʔaxlaaqiyy/, 'immoral', /laa-ʔinsaaniyy/ 'inhuman'. It is important to mention that Arabic does not have derivational prefixes, except one derivational morph /laa/which is originally a free morpheme, but it has been used recently as a prefix in such nouns as /laa-ʕunf/ 'nonviolence'. the suffix /-iyy/ which is used to derive adjectives from nouns, for example, /ʔadab/ 'literature'; /ʔadab-iyy/ 'literary'; /ʕilm/ 'science'; /ʕilm-iyy/ 'scientific', are derivational affixes. They often change the part of speech of the word, as in /ʕilm/(N) /ʕilm-iyy/(Adj), or modify the word such that the meaning of the whole word is different from the meaning of the base, as in /ʔaxlaaqiyy/(Adj) 'moral' and /laa-ʔaxlaaqiyy/(Adj) 'immoral'.

Whereas the inflectional affixes that generally serve a grammatical function without changing the basic meaning or part of speech of the word(Al-Najjar, 2012). Inflectional suffixes are used with nouns and adjectives to signal gender, number, and case. They are several in number such as given below:

- /-aat/: a suffix inflecting a noun or adjective to the plural feminine, e.g. /bint/ 'girl, daughter' /ban-aat/ 'girls, daughters'.
- /-aa/: a nominative suffix inflecting a singular noun or adjective to the dual, e.g. /mudarris/ 'teacher'; /mudarris-aa/ 'two teachers'.
- /-ii/: an accusative and genitive suffix inflecting a singular noun or adjective to the plural masculine, e.g. /mudarris-ii/.

Words composed of a single morpheme, such as in /xubz/ and /ʔswad/, are known as monomorphemic or morphologically simple words. While words composed of more than one morpheme, such as in /laaʔaxlaaqiyy/ and /mudarris-II/, are known as polymorphemic or morphologically complex. Usually a polymorphemic word has a single content morpheme, which contributes to the basic meaning of the word, and one or
more affixes, which modify the basic meaning. When two words share a (content) morpheme, they are said to be morphologically related. For further explanation, words that are morphologically related need not be both phonologically and semantically similar. For instance, whereas the words /laaʔaxlaqiʔ/ and /laaʔinsaniʔ/ are argued to be morphologically related, they are not semantically related. Similarly, while the words /saaqa/ and /qaada/ "he led or drove", are not phonologically related, but they are still morphologically and semantically related.

As we mentioned earlier, the most productive tools in Arabic derivation and inflection are the patterns. (Whereas, affixes are the most productive tools in derivation and inflection in English.) A pattern is a sequence of fixed vowels or vowels and consonant(s) inserted between and sometimes before and after the consonants of the root or the derived word to generate, derive, or inflect a morpheme or a word. (Some morphologists erroneously analyze these patterns as infixes). The pattern shapes the phonological or morphological rule that can be operated on the root. The following two instances illustrate the relationship between the root and the pattern. The markers at the end of words will be ignored, since they are not part of the patterns:

Input pattern: CaCaC
Root: q-t-ʕ
Output: /qaʕaʕ/ 'cut' (past tense)

Input Pattern: CaCiC
Root: l-ʕ-b
Output: /laʕib/ 'played'

There are lots of patterns in Arabic, which can be divided into three classes of patterns: patterns for derivation, patterns for inflection, patterns for morpheme-formation. Some of those patterns are multifunctional. Thus, any one of those patterns can be used to achieve more than one function. For instance, the pattern CaCiiC is used to derive a singular noun, e.g. /tąbiib/ 'physician', to inflect a noun to plural, e.g. /ʕabd/ 'slave': /ʕabiid/ 'slaves', to derive an adjective, e.g. /♀amiil/ 'beautiful', to derive a patient adjective, e.g. /qatiiʔ/ '(the) murdered (person)', and to derive an intensive adjective, e.g.
1.2 Related Studies

This section reviews some of the most related works of the present research.

El-Khafaifi, in his study (1985), reviews the various methods of lexical enrichment to the Arabic language which are presently employed by the Arabic language academies. He focuses on the problems which Arabic faces in coining scientific and technical terminology. Debatable issues that are inextricably linked to the processes of language modernization are discussed by El-Khafaifi, with an analysis of the conflicts created by the necessity for lexical enhancement and the reluctance of some individuals and organizations to sanction any kind of language planning.

El-Khafaifi's work includes a historical background of the Arabic language and early attempts at language reform in the nineteenth and early twentieth centuries. Furthermore, an account of the foundation of the small Arabic language academies which are preceded those academies in existence today is reviewed. It also covers a detailed description of the functions and the establishment of the Arabic language academies with a description of the organization, functions, and goals of each one of the five language academies in the Arab world, which would provide an important data to the present research.

El-Khafaifi, in his work (1985), deals with three word-formation processes namely, analogical derivation, naḥt (blending, compounding), and taṣrīḥ (Arabization; Arabicization) that play a significant role in the modernization of Arabic. A significant number of illustrative examples of the terminology coined by the Arabic language academies using the previous word-formation processes are provided in El-Khafaifi's work. It is important to mention that El-Khafaifi (1985) is a significant work for all scholars working in this field because it provides a detailed discussion about Arabic word-formation processes that would enhance the lexical modernization of Arabic. Moreover, the abundance of the examples provided in his work may help scholars to use them in their works.

Another study, Al-Qahtani (2000), investigates Arabization as a quasi ideological-linguistic phenomenon in Saudi Arabia. This study reviews the policies used in
Arabization on the planning level. However, the study assesses empirically the extent to which a series of Arabized words is implemented in written discourse in Saudi Arabia. It also discusses the morphological processes of coining Arabic-derived words for the purpose of using them as a substitute for the foreign ones.

Al-Qahtani used a written corpus of 1,068,263 words were collected from Saudi newspapers. After a search by employing a Microsoft-Access database which developed for the purpose of the study, 288 Arabized words were used as instances for the study. The results show a reasonable frequency of the Arabized words in written discourse in Saudi Arabia. It also reveals that the words that are coined by morphological derivation are more frequent than those made by compounding and Arabized words are more frequent in scientific discourse than in religious discourse.

The work of El-Mouloudi (1986) highlights the lexical modernization of Arabic, especially in the area of science and technology. The study investigates two of the most debatable processes of lexical expansion, which are: taṣriib (assimilation of foreign terminology through direct borrowing or translation) and naḥt (blending, compounding). El-Mouloudi’s study mainly aims to explain these two processes and describe their effectiveness and function in creating new terminology in Arabic.

Emery (1983) reviews the lexical reform of Arabic and highlights the role of the Coordination Bureau of Arabization in standardizing scientific terminology. Issues such as methods of word-formation preferred by Arabic language academies in addition to linguistic purism are discussed in Emery's work (1983). It clarifies how the extremely preservative attitude to Arabic leads to practical difficulties in creating a unified terminology. Furthermore, it accounts for the impact of Western languages by means of loan translations and borrowing.

Redouane (2001) investigates the use of word formation processes in Modern Standard Arabic (MSA) by adult L2 learners of mainly English-speaking background. The main object of the study is to investigate the differences between L2 learners’ and native speakers’ use of MSA word formation processes. It reveals that L2 learners produce fewer innovations than native speakers. However, they show a higher preference for compounding while native speakers preferred derivational processes, mainly Vinf.+gem. and affixation. The study includes an account of the word-formation
Cook’s study (2010) investigates Neologisms (newly-coined words). The study attempts to exploit the linguistic knowledge in order to understand the characteristics of neologisms. Cook proposed that neologisms create problems for natural language processing (NLP) systems because they are not typically listed in computational lexicons—dictionary which is a challenge for lexicography. The study addresses the problems confronted in both natural language processing and lexicography using automatic methods to identify and infer syntactic and semantic properties of neologisms. Knowledge about etymology—including word formation processes and types of semantic change are exploited in the study in order to infer neologisms' properties.

Alawneh's (2007) investigates neologisms that appeared due to the two Palestinian Intifadas (uprisings) the First (1987-1993) and the Second (2000-2005) to investigate how translators deal with them. It highlights the problems of translation due to linguistic, political, and cultural differences. Neologisms are classified, in the study, according to their formation, criteria of use, and translational occurrences in other sources, particularly Hebrew. The study highlights and documents those neologisms that appeared as a response to the political issues which take place in Palestine.

Ahmed H. Y. & Muhammad A. M. (2010) examine neologisms found in textbooks of Mass Media departments of Iraqi universities. The study proposes that the students of Mass Media face many problems in comprehending and translating neologisms that have no equivalences in Arabic. The study attempts to highlight these problems and find suitable solutions for these difficulties. A categorization of neologisms according to their types in addition to their versions are added. The collected neologisms, from the textbooks, were defined and translated into Arabic for the purpose of deriving new coinage from them.

Ilaiyan & Sindawi (2013) provides a discussion about neologisms (linguistic innovations) that are derived from verbs in Arabic. The study concentrates on verbs that derived from nouns referring to the names of places such as countries and cities, in addition to those from names of people throughout the world and particularly in the Middle East. The study examines and documents those verbs that were found in
newspapers published in the Arabic language over the Arab world between the years 1994 - 2010. The study provides a categorization of the various types of verbs derived from the names of geographical locations and peoples, which have created recently in the press in the context of contemporary political developments. This work confirms the flexibility of the Arabic language according to the fluctuating political discourses, especially, those are related to the Middle East. Moreover, it reconfirms the richness of an Arabic morphological system which supports generating new terms in response to the changing needs of the language.

1.3 Productivity and Mental Lexicon

Trying to get an adequate comprehension of productivity, notions such as 'possible word' and 'actual word' are discussed in the present section, which also guides to the investigation of how complex words are stored and accessed in the mental lexicon.

According to Plag & Ingo (2003, 55) "any word-formation theory should make predictions which words are possible words of a language and which words are not." It has been found that new words are created by using some affixes while others are less often used for the same purpose. The reason beyond the ability of some affixes to coin new complex words refers to the fact that these affixes have particular features that make them productive. It is better to take into consideration that not all affixes have this feature to the same degree and others do not have it at all (Plag, 2003).

A possible word refers to a word whose semantic, morphological or phonological structure which is in accordance with the regularities and rules of the language. For instance, all transitive verbs can be turned into adjectives by the attachment of -able. Hence, affordable, readable are all possible words. Moreover, their meaning is predictable on the basis of the word-formation rule according to which they have been formed. Thus, they are semantically transparent.

On the other hand, an actual (or existing) words can be simply defined as the words that are in use. However, the ‘knowledge of a word’ is a gradual notion, which means that we know some words better than others. This assumption can be concluded on the basis of the fact that "the mental lexicon of one speaker is never completely identical to any other speaker’s mental lexicon" (Plag, I. 2003, p. 58). Actual (or existing) words include both morphologically simplex and complex words, and many words among the class of
complex words behave in accordance with the rules of the present-day language. However, we can also find others that do not behave in accordance with these rules.

After exploring the difference between actual and possible words, we may now turn to the mechanisms that allow speakers to form new possible words. However, issues like - how speakers produce new possible words, and how words are stored and retrieved in the mental lexicon - are discussed due to their importance regarding the nature of word-formation rules and their productivity.

We have already briefly discussed that complex words can be divided into two classes, one is distinctive or idiosyncratic complex words which cannot be derived on the basis of rules and these words must be stored in the mental lexicon. While, the other class includes words that are in complete accordance with the word-formation rule on the basis of which they are formed? The mental lexicon can take different models. For example, according to Di Sciuollo and Williams (1987:3) the lexicon is seen “like a prison - it contains only the lawless”. Thus, on the basis of this view, the lexicon would bear only information which is not predictable, which means that in this type of lexicon only simplex words, roots, and affixes would have a place, but no regular complex words. It is the same way that regular dictionaries follow. However, There is growing psycholinguistic evidence which denies this proposal and proposes that both simplex and complex words, regular and idiosyncratic, can be listed in the lexicon (in addition to the word-formation rules and redundancy rules that relate words to one another).

The reason behind the first proposal (i.e. excluding these forms from the lexicon) may be referred to the economy of storage. On the basis of this argument, the lexicon should be minimally redundant, i.e. no information should be listed more than once in the mental lexicon, and everything that is predictable by rule need not be listed (Plag, I. 2003, p. 59).

Another view proposes that the way words are stored in the human brain is not completely economical. The reason behind this lack of economy of storage is that apart from storage, the brain must also be optimized with regard to the processing of words. In other words, whenever a speaker wants to articulate a word s/he must be able to access and retrieve the word from the mental lexicon within fragments of seconds. Thus, we can find that there may be a conflict between the necessity of quick access
and the necessity of economical storage, simply because faster processing may involve more storage.

However, regarding the storage of words in the mental lexicon, there are two possible models which are: whole word (or ‘whole word route’) by direct morphological processing access and decomposed (or ‘decomposition route’) by morphological processing access to the decomposed elements. which means that each incoming complex words are simultaneously processed in parallel in two ways.

### 1.4 Coining New Words (Neologisms)

No living lexicon is ever stable. According to (Murray James A.H.; 53):

“It is not today what it was a century ago, still less what it will be a century hence. Its constituent elements are in a state of slow but incessant dissolution and renovation. Old words are ever becoming obsolete and dying out; new words are continually pressing in” (A new English dictionary on historical principles)

The flow of new words has never been as quick as in the last 25 years. Thus The 20th century is known to be the most neogeneous one. It is obvious by now that science transforms man’s environment at a pace which is not merely rapid, but swiftly accelerating. As Foster (1968) has noted:

"Throughout all the ages the elderly have lectured their juniors on the happiness of the old days and the decadence of present manners, but nowadays change is so rapid that anyone out of the first flush of youth tends to feel slightly out of date."

Thus the huge flow of new words can be accounted by a number of (a) extra-linguistic stimuli of language development, such as mass media development and science-technological progress, etc. and by (b) intra-linguistic systematic factors.

To know the frequency of new word formation is something difficult. According to Barnhart (1978) around 500 new words are recorded every year in different English dictionaries. This number can be considered as a lower bound of the annual number of new English words, but we can assume that the actual figure of those new words is probably much higher because dictionaries only record words which meet their criteria.
for inclusion, that may be based on range of use, frequency, judgments about a word’s
cruciality, and time span of use, that is, the need for it to be in the language (Sheidlower,
1995). Thus, all new words cannot be captured by these criteria, even those that have
become established in a language. Moreover, at the time of Barnhart’s (1978)
estimation, lexicography was broadly a manual undertaking. Lexicographers specified
such words (Neologisms) by reading large amounts of material then recording what
they found. Hence, we can conclude that it is completely possible that lexicography did
not achieve success to record some of the new words from a given period of time which
satisfy their criteria for inclusion.

Barnhart notes that in a vast sample of monthly magazines, around 1000 new words
were found; accordingly he supposed that approximately 12,000 words are found as an
annual average of new word formation. Many of these terms would not be documented
in dictionaries, simply because of their strategies for inclusion.

This number may also be an overrate of the annual figure of newly coined words;
sampling any particular month will also find words which were new in a previous
month, and sampling subsequent months may reveal fewer neologisms. Furthermore,
this estimation may be extremely conservative; as it only rates magazines; sampling
more materials may reveal many more new words.

Metcalf (2001) suggests that every day at least 10,000 new words are coined in English;
however, he also claims that most of these words never become established forms. The
rate at which new words are coined can also be estimated from corpus data. The figure
of hapax legomena (or hapaxes—words that occur once) and total number of tokens in
a corpus can be used to estimate the rate of vocabulary growth (Baayen and
Renouf, 1996). The ratio of new words amongst the hapaxes increases as corpus size
increases, and so the rate of vocabulary growth gives an estimate of the rate of new
word coinage. However, new words that are also hapaxes may be nonce-formations.

However, regardless of the difficulty of estimating the frequency of new word coinage,
and the differing estimates thereof, it is obvious that many new words enter languages
around the world as well the ARABIC language receives an adequate rate of newly
coined words each year, especially the last few years due to the exceptional expansion
of science and technology in the past decades. On the other hand, the increasing of the
political conditions and its issues in Middle East and Arab countries play a major role.
Such as the “Arab spring”. Such reasons are taken in consideration when we talk about the vast growth of the newly coined words (Neologisms). According to (Peprník, 2006; 76) "a neologism is a new word or sense of a word". It can become from any type of word formation. "With frequent use and the passage of time they become marked and enter everyday use (and shift from the periphery to the centre of the language system).” (Peprník, 2006; 76).

The speaker of a language has a huge amounts of information to keep track of; this information is related to words; he/she minimally must know what it means, how to pronounce them, and how to use them in a sentence. New words are regularly added to the existing bank of words. Speakers also know when set of words are related to each other or when they are constructed from similar parts.

For instance, speakers of Arabic know that /mohandis/ 'engineer' and /mohandisuun/ 'engineers/ are related because they are very similar in what they mean and how they sound. The knowledge of when words have common parts or when words sound and mean similar things, is used by the speaker to organize his/her knowledge of words. The knowledge that words are composed of smaller parts and the knowledge of how these parts combine is known as morphological knowledge.

As we mentioned above the component parts of words are known as Morphemes, which are the smallest meaning bearing unit in a language. Hence, the word /al modarrisiiin/ 'the teachers' consists of three morphemes because it can be reduced to three identical units of meaning which are /al-/ 'the', /modarris/ 'teacher', and /-iin/ (general plural marker for masculine). Each one of these units also can be used in other words, the shared string is identified as a morpheme.

- /almodarris/ 'the teacher',
- /alwalad/ 'the boy'
- /modarris/ 'teacher'
- /?irhabiyyiin/ 'Terrorists'

The aim of the morphological theories is to identify the knowledge that speakers have about the morphological structure and relatedness of words and furthermore to define the types of word formations, that occur cross-linguistically. Knowledge of the morphology of a language permits a speaker of a language to create new words.
composed of common parts and understand them. For instance, even if one has never heard the word, /almodarrisii/ its meaning can be understood from the meaning and functions of its component morphemes. In addition to aiding in the production and comprehension of novel words, morphological information may also be used in the storage, production and recognition of words in the mental lexicon. Word representations in memory may be organized by shared morphemes. Moreover, the presentation of one word with a particular morpheme may affect the processing of subsequently presented words if they contain the same morpheme.

1.4.1 Word-finding Processes

Trying to find out how morphological information is realized in the mental lexicon, Onomasiological theory is reviewed here. Onomasiology is a branch of lexicology that is concerned with the question of how concepts (i.e. ideas, objects, activities, etc.) are expressed. Onomasiology was launched when Adolf Zauner (the Austrian linguist) published a study (1902) on the terminology of body-parts in Romance languages, it is better to mention that the most significant onomasiological works were written in Romance. Before the emergence of onomasiology, early linguists were concerned with the etymology, which is (the word-history) of multiple expressions for a concept, that was mostly fixed and precisely defined. Next, in (1928) Hugo Schuchardt and Rudolf Meringer (Austrian linguists) started the Wörter und Sachen movement, which confirmed that every study concerning with a word needed to comprise the study of the object it denotes. Schuchardt also emphasized that the onomasiologist /etymologist, when following back the history of a word, should respect both the dame phonétique (prove the regularity of sound changes or explain irregularities) and the dame sémantique (justify semantic changes).

Jost Trier (the German linguist) in his book (1931) Der deutsche Wortschatz im Sinnbezirk des Verstandes presented a new method which is the lexical field theory. As Trier mentioned, lexical changes must always be seen, away from the traditional aspects, in connection with the changes within a given word-field.

Few studies have been carried out on onomasiological theory after World War II. Nevertheless, recent works of different linguists highlights it, such as the works of Peter Koch, Andreas Blank, Dirk Geeraerts, Joachim Grzega, Marion Schöner and
Bammesberger. In addition to the recent representative of synchronic Onomasiology, Pavol Štekauer.

When a speaker attempts to name an object, he/she will carry out some sort of cognitive-linguistic cost-benefit-analysis. According to the linguistic knowledge and the mental lexicon, the speaker may either track back an already existing word or coin a new designation. Such processes may differ in the degree of consciousness.

There are different motivations that can activate the process of coining new designation (Grzega 2004), such as prestige/fashion, folk-etymology, word play/punning, taboo, flattery, insult, etc..

If the speaker intend to coin new designation, he/she has to exceed three onomasiological levels of a word-finding process, namely: first level is to analyze the distinctive characteristics of the concept; the second level includes selecting the semantic components for the naming unit that gives a more abstract sense to the name/word; then, the third level which includes choosing the concrete morphemes which gives the name/word a more concrete sense.

![Level I](analyzing_the_distinctive_characteristics_of_the_concept)

![Level II](selecting_the_semantic_components_for_the_naming_unit)

![Level III](choosing_the_concrete_morphemes)

Figure: (1.3) Word-finding levels
level (1) can be skipped in two cases:

- Borrowing words from a foreign language or even a variety.
- Shortening an already existing word in the mind of a speaker.

A speaker resorts to coin a new word if he/she does not shorten an already existing word for the concept. There are different types of processes that a speaker can select from. The following list classifies the formal processes of word-coining (Koch 2002):

- Choosing of either:
  a. **Semantic change**: (a new sense of an already existing word of speaker’s own language).
  b. **Loan word**: borrowing a word from a foreign language, like /kabil/ "English-French: cable".

- **Conversion**: which is also known as zero derivation, it is the coining of a word with new word class from an already existing word (of a different word class) with zero modification (Bauer, 2005). Such as, the Arabic verb /ranaa/ "gazed" becomes the noun /ranaa/ "a beautiful person or thing at whom or at which one gazes" (Al-Najjar, 2012, 618).

- **Composition**: which includes compounding, like /?amiiru-lmuʔminiin/ "Emir of the Believers" and derivations. Such processes are very consciously.

- **Ellipsis**: which is the morpheme deletion process, like the noun /alʔaʔerah/ from /qanaat alʔaʔerah/ "Al-Jazeera channel".

- **Clipping**: which is also called "truncation" or "shortening." Clipping involves the reduction of a word to one of its constituents (Marchand: 1969), like net from Internet.

- **Acronyms**: which are words or names formed as an abbreviation from the initial components in a phrase or a word, such as (RADAR) from Radio Detecting And Ranging, and the Arabic instance واس/ was/ from /Wiʔaʔalat alʔanbaʔ alʔaʔuudiyyah/ "Saudi Press Agency".

- **Blending**: is the process in which words are created by joining parts of two or more other words, like smog from (smoke and fog).
Reduplication: is the process that involves repeating a whole or part of a word either exactly or with a slight change. By applying this process new words are coined, like goody-goody.

Other productive processes are included under this list, such as back-derivation, folk-etymologies, morphological alteration, tautological compounds, word playing, stress alteration, graphic alteration, phraseologism, and root creation.

1.5 Modern Standard Arabic (MSA)

The notion of MSA is important for the present research examines the morphological processes with special reference to this form of the Arabic language, further it draws its instances from MSA. Modern Standard Arabic (MSA), is the official language for around 320 million people in 22 Arab countries which are represented in the Arab League. MSA is also known as Literary or standard Arabic. MSA can be considered the fourth most-commonly-language in the world. It is listed with other five languages of the United Nations. Modern Standard Arabic derives from Classical Arabic (CA), that is the language of Al-Qur’an Al-Kareem which is the holy book of Muslim's people, it is also the language of pre-Islamic as well as early Islamic literature. Both MSA and CA are very similar to each other. Thus, they share almost much vocabulary, word structure, and sentence structure. However, by the time, MSA started replacing its antique words and phrases, which have been dropped as the times have changed, with new scholarly and technical vocabulary.

Since MSA is the official language for all Arabs around the Arab world. Thus, it is the written language that is used for all Arabic newspapers, magazines, books, street signs, official documents, etc. Most educated Arab speakers, regardless their spoken dialects or nationality, are able to use Modern Standard Arabic as lingua franca. That is because they share the same media, print, and the same religious practices, and because all Arab children use MSA as a mean of instruction in the schools.

Still no consensus regarding the definition of MSA, but most linguists agree that modern Arabic writing, with all its forms, shapes the foundation of the identity of the language. However, modern Arabic writing involves an expanded range of discourse styles and genres, which vary from complex and old-fashioned to innovative and experimental. Hence, determining a limited and describable standard is a challenging
task. However, modern Arabic is used for media purposes, and it has attracted attention of many linguists in the last decades because of its pervasiveness, its ability to serve as a model of contemporary written usage, and its stability (Ryding, 2005).

Vincent Monteil's *L’arabe moderne* (1960, 25) provides a complete description of MSA in which he refers to "le néo-arabe" as "l’arabe classique, ou régulier, ou écrit, ou littéral, ou littéraire, sous sa forme moderne". It is to say that he deals with modern Arabic as the modern version of the old classical Arabic CA. Monteil (1960) defines MSA depending on its function as the language of new media in the Arab world, which is the proper way to identify it since it is not officially codified as a phenomenon separate from CA.

Arabic, like any other language, has two forms which are written and spoken Arabic. Written Arabic is used widely through the Arab world because of the reasons mentioned above such as media and religion etc. While the spoken Arabic may vary according to different variables such as regional dialect, geographical location, context, and usage. It is important to mention that spoken Arabic has more grammatical license than written. Because speakers tend to drop or misuse some grammatical endings in their speech.

![Diagram of Arabic Language](image)

**Figure: 1.4 Arabic language**

MSA does not have native speakers. However, educated Arab people are capable to use it properly in speaking, reading, writing. Because it is used in different situations over the Arab world. Speakers of Arabic use their own dialect, when conversing casually or
informally. On the other hand, they are able to switch between MSA and their native
dialect or mixing them while speaking, depending on the situation. Such usage of the
same language which is used in different social contexts, is known as diglossia.

Since this research is based on Modern Standard Arabic (MSA), we will shed the light
on the diglossic situation with reference to Arabic. "Diglossia" is a French word coined
by Marçais (1930), and it has been given academic attention by C.A. Ferguson, who
used the term diglossia as a title of his article (1959). He considered the characteristics
of bidialectal situations which can be found in linguistic communities where two
varieties (a vernacular and a standard) are used by native speakers in complementary
distribution, according to the contingent situation.

Ferguson (P.235) defines diglossia as:

"a relative stable language situation in which in addition to the primary dialects
of the language (which may include a standard or regional standards), there is
a very divergent, highly codified (often grammatically more complex)
superposed variety the vehicle of large and respected body of written literature
either of an earlier period or in another speech community which is learned
largely by formal education and used for most written and formal spoken
purposes but not used by any sector of the community for ordinary
conversation".

Everywhere in the Arab world, extending from Iraq to Morocco encompassing the
Levant and the Gulf Countries, for a long time one formal language has been used
regularly by Mass media: TV, Radio, magazines, newspapers and in literature, as well
it has been taught systematically in all universities and schools. This language is
scholarly known as Modern Standard Arabic (hereinafter, MSA). The lexicon and the
grammatical structures of this language is considered as an adaptation of Classical
Arabic - the language used in Holly Kur'an (Zughoul 1980; Mendenhall 2006), which
is considered by all Arab folks as the book for all the matters of life regarding religion
practices and instructions, customs, law, morals, etc,. The Arab people were united by
the preaching of the Prophet of Islam Mohammed (PBUH); the role and significance of
Islam in the whole area can hardly be overvalued in the analysis of the social
phenomenon of language.
Although the existence of (MSA) as a lingua franca, that most educated Arabs are able to speak and understand, the language that Arab speakers use in the casual and informal situations is their own dialects which vary depending - chiefly in the geographical area of the speakers and other variables as mentioned above. Arab people like any other nations use their own vernaculars, which are lexically and grammatically less complex than the standard. These vernaculars have a distinctive oral form while they are hardly ever written. This leads to exhibit fluctuating degrees of intelligibility with both MSA and one another while natives of adjacent areas are able to understand each other easily. For instance, Moroccan dialect would be unintelligible to natives of the Gulf (Kaye 2001), in the same fashion as the Portuguese language is extremely difficult for Romanian-speaking people to understand, even though both originate from the same ancestor (Latin).

If we shed the light on the Arabs' attitudes towards the state of their language, we will find that it involves a generally unconcerned pattern: the prestigious MSA is the only language whose existence is socially acknowledged, while dialectal Arabic (DA) has historically never been given much recognition or importance, since it has always been regarded as a bastardization of the original, "pure" language.

The diglossic situation survives in the Arab world, despite the attempts of pan-Arabistic to deploy MSA as the one and only form of all the twenty-two national territories in question. A point of view is offered by Zughoul (1980), who imputes the gap between DA and MSA to an endemic situation of illiteracy and poverty in the Arab world, which is mostly caused by Western colonial exploitation and Turkish domination; in a less politically-slanted and more realistic fashion. Accordingly, we can better view that the diglossic situation is naturally accompanied by sociopolitical and sociological aspects which revolve about the feelings of pan-Arabism installed by a common culture and religion.

All Arab share one idea: Arab countries should not adopt any vernacular as an official language. Because this would entail "unwelcome" outcomes. MSA would finally die or substituted by the local dialects, as happened to Latin which died with the appearance of Romance languages, Thus, the “unifying force” guaranteed by the lingua franca would no longer exist (Zughoul, 1980).
The scenario of Arabic disappearance runs against the principles of Islam, which promotes Arabic as the perfect language because it would drive to undesirable consequences such as the vanishing of Islamic and Arabic culture and traditions, a truth that could be then employed by Western colonialists to dominate the Arab peoples completely.

The current political and geopolitical conditions that revolve in the Middle East, especially throughout the Arab countries, may have plus points regarding the capability of MSA to coin new words in line with the new political issues and events. According to (Imam, 2013):

"The growth in the study of Arabic language and indeed Arabic literature has been fluctuating over time. Arabic has been a language of interest from the early stage of Islamic civilization for many individuals, groups and governments around the world since then. However, the episode of the September 11, 2001 attacks on the World Trade Centre WTC at the United State of America has drawn more attention towards Arabic as a language spoken by most, if not all of the Caribbean suddenly became curious in understanding not only the language of Arabic, but also literature of the language as a means getting into the dynamics and under-currents inherent within the Arab culture and perhaps their religion that gingered some of its people into such a massive planned and courageous’ act of violence on other peoples. For this many things affected the language positively and negatively. Many enrolled themselves in different institutions to learn Arabic language. In addition to this, Arabic and Arab nations in Middle East are currently important factors influencing the trends in global politics today. This is because the economic, political and strategic importance they constitute to the interests of the so-called global powers of the world" (p. 65).

1.5.1 Arabic Writing System

Since this research is about Arabic and includes many examples that are written in Arabic script, hence, this section covers an account about the Arabic alphabet and the Arabic writing system. The Arabic alphabet dates back to old periods (pre-Islamic periods). Some countries whose language is not Arabic such as Pakistan, Afghanistan,
Iran have adopted the Arabic writing system. It is easy to learn and master that is because Arabic letters exhibit a high correspondence between the symbol and the sound. It is to say that the letters are pronounced almost the same in every word position.

There are 28 letters in Arabic and furthermore Hamza (glottal stop) and two variants of existing letters (alif and taa?) are included under the Arabic alphabet. The diacritical marks (which are those signs written above or below the letters) have a significant role, whereas these marks complement the alphabet.

Arabic letters can be classified into two categories. First one comprises those letters that connect only to the preceding letter (the letters to the right). The letters of this category can be called "one-way connectors", while these letters do not attach to the letters to the left. Which are:

ء  و  ذ  ر  د  ا

While the second category comprises the letters that connect to both following and preceding letters, Thus, they called "two-way connectors".

The alphabet contains three long vowels:

- Alif /aa/ (ا)
- yaaʔ /ii/ (ى)
- Waw /uu/ (و)

The latter two functions as consonants as well – “w” as in “wet” and “y” as in “yes.”

There are three short counterparts of these vowels, pronounced abouthalf as long, represented by diacritical marks:

- Fatha ( )
- Damma ( )
- Kasra ( )

A tiny circle written above a consonant is called a sukuun (ُ) and it represents the absence of a vowel. In addition to these marks, there is a set of double Fatha, Damma, and kasra. The short vowels and their doubled version serve two purposes: (i) accurate pronunciation, and (ii) grammatical marking, indicating cases and definiteness of the noun, and moods of the verb.
The mark that resembles a tiny “w” is called shadda (ش). If this mark is placed over a consonant, it doubles the consonant sound which can be called germination in English.

### 1.6 Terminology of Arabic

Terminology is a recent linguistic discipline which pursues to establish a theoretical framework for coining new scientific and technological terms. The study of the formation of terms and how they represent structures of knowledge makes this discipline a branch of lexicology and semasiology. Terminology, however, is perhaps better discussed as an interdisciplinary field of study relating selected aspects logic, ontology, informatics, classification, and epistemology (Sager and Johnson, 1979).

The need to unify the standards and methodology of term creation, and the large growth of the international language of science lead to the emergence of the science of terminology in the nineteenth century and to its quick development in the current century.

Professors: E.Wuster (1955), Holmstrom (1970), and Schloemann (1970), were among the scholars who helped institutionalize this discipline, and who worked with UNESCO in the establishment of the International Information Center (Infoterm) in 1971. General guidelines to regulate the process of coining terms for new scientific and technological concepts were proposed by Wuster (Al-Qunier 1997). These guidelines are:

1. The term should be derivationally productive as much as possible.
2. The term should express the concept clearly and directly.
3. When coining a new term, we should take in consideration the morphological and phonological structure of the language to which the term is introduced.
4. The term should represent one meaning.
5. Polysemy (more than one term for one concept) should be avoided as much as possible.
6. The term should express the meaning of the concept even out of context.
7. The term should be as short as possible without losing the meaning of the concept (Al-Qunier 1997).

Most efforts, among all aspects of Arabic language modernization, have been focused on terminology, particularly in the area of modern science and technology. Early in this century, the pace was set in this direction, when the Academy of Damascus was
established in 1919 (El-Mouloudi 1986) and (Al-Qahtani 2000). Cairo Language Academy focused from the beginning on creating modern scientific and technical terminology. All the Arabic language academies have followed the traditional (archaic) methods and procedures of Arabization known in Arabic language history. This was the main point of criticism for modern Arabic language planning (El-Mouloudi 1986) and (Al-Qahtani 2000). According to El-Mouloudi (1986) "A predominant principle which has guided and at the same time slowed down lexical productivity has been the almost total reliance on the old Arabic methods of naming ideas and concepts” (p. 98).

Methods such as borrowing, semantic broadening, compounding and derivation are judged to be compatible with the fundamental norms of Classical Arabic. Some challenges for Arabic to encompass scientific and technological terms have been presented as a result of the insistence on following the traditional methods of coinage by the responsible institutions (Al-Qahtani 2000: 49). Ferguson (1971) stated that the terms made through compounding, a predominant word formation in modern scientific language, are especially problematic as Arabic makes far less use of compounding or affixation than Indo-European languages. Synonymy and polysemy also pose problems for Arabic terminology. This is because old Arabic grammarian tried to reject the concept of synonymy. For instance, Ibn Fares (750 A. D. ) thinks that there are no two words that have an identical meaning; language does not allow such duplication.

A disagreement on synonymy and polysemy is also there in modern linguistics. Lyons (1995) defines the meaning of a term as a function of its relationships to the other terms in a certain lexical field. According to Lyons’ theory, these relationships (synonymy, antonymy, etc.) are primitives (Lyons 1995:24). Lehrer (1974) also proposes that each word has its semantic field, though several words may share different aspects of a particular meaning. According to her: "Synonymy can be defined as bilateral implication. A and B are synonyms if A 3 B and B 3 A. If the criterion for classifying two items as synonymous is too strict, such as complete interchangeability, then it turns out that there are few, if any, synonyms” (Lehrer 1974:23).

The Arab League held a conference in Morocco in 1981 with the objective of developing a unified mechanism for using only one Arabized term for each foreign concept as an attempt to solve such problems. In short, the conference aimed primarily to eliminate
the multiplicity of forms in Arabization. For this purpose, the conference called for using some criteria for Arabizing foreign terms, these criteria are:

- First criteria called for avoiding multiple connotations for the Arabized term by using the word that has a specific meaning not the word that has multiple meanings;
- Second one called for coining one Arabized word for a single concept in its single field;
- When there is no way of using an Arabized word that has more than one connotation, the word with the root closest to the intended term is preferred. Though, polysemy is still found in Arabization. There are several words that have more than one Arabized form. For instance, the term 'Compressor' has three Arabized forms which are /kabbaas/, /miḍḡaat/, /ḍaağiṭ/ (Al-Qahtani 2000). Similarly, the word 'Brakes' has three representations in Arabic as given in the figure below:

![Figure:1.5 Polysemy and Arabization](image_url)
We can find many Arabized words have more than one connotation. Thus, polysemy is still found in Arabization although the efforts were done to develop a unified mechanism for using only one Arabized term for each foreign concept.

According to Al-Qurashi (1982) "This terminological plurality naturally creates confusion because the time has passed in which the profusion of synonyms was asign of the linguistic richness and reflected an inherent quality of the language in question" (p. 235). The issue of multiplicity of Arabized forms, which creates confusion in realizing the accurate meaning of a concept, still needs to be solved in the process of Arabizing foreign terms.

Early in the first half of this century, Arab linguists debated concerning the reform of the Arabic word formation rules. Three major trends have been identified which are: the Classicist (traditional) trend, a Moderately conservative trend, and the Modernist trend (El-Mouloudi 1986:81-82). The concern has been mainly to exploit and adapt the morphological and semantic capabilities of Arabic to confront the problems posed by modern scientific and technical terminology (Hamazawi 1992:176).

It is important to mention that the prevailing trend is that of the moderately conservative represented by language academies which have generally followed an established hierarchy of processes for lexical elaboration. This approach has not deviated from the traditional four methods of coinage in Arabic which are: morphological derivation, compounding, semantic broadening, and borrowing. Minor modifications are adopted from time to time, but the primary norms of Arabization have always been maintained.

1.7 Language Academies: An overview

In the twentieth century, technology and communications have witnessed rapid advances which have led to make an enormous amount of new knowledge and information exceedingly available to almost every country around the world. Even those countries which were long isolated from centers of scientific research are now linked to them by media. These developing countries make every effort to spread newly acquired information to their peoples through any method within their power.

Language planning movement is one facet of this effort, that has become a part of most modernization programs in developing countries. Language planning entails many factors beyond those of purely linguistic nature. These may cover the existence of
diverse dialects within a given language community, nationalistic and religious feelings, the literacy and educational facilities of each country in such planning, etc.

Many languages face the problem of adaptation to modern needs. Thus, such problem is not unique to Arabic. According to (El-Khafaifi, 1985; 36) "other languages such as Turkish, French and Hebrew have been confronted the fact of an imprecise and inadequate vocabulary with which to acquire and subsequently disseminate new knowledge from foreign sources".

In case of Turkish, which underwent extensive changes in the interests of reform and modernization, the substitution of Latin alphabet for Ottoman-Arabic script was one of the reforms implemented in Turkey as a result of the aggressive and forceful policies of Mustafa Kamal Ataturk, who intended to sever modern Turkey from what he perceived of as the "dead weight" of its Islamic past (Gallagher, C. F.1971).

The Turkish Linguistic Society (Turk Dil Kurumu) established in 1932. Special goal of this society was to "cleanse" Turkish of its foreign elements and substitute them with proper Turkish words, and its general goal was to make of Turkish an efficient and modern vehicle of communication for vigorous and progressive society (I-IAZAI, G. E. O. R. G. 1974). It is important to mention that in this case of language reform, there was a strong support and encouragement of the ruling government. This official support, with the absence of any potentially uncooperative Turkish-speaking nations, led to achieve success of many planned reforms and helped Turkey's program of language reform extremely.

Another instance of the French Language Academy (L'academie Francaise) that was founded in 1635. Initially, its goals were not the improvement of the common language; its publications, but recently, were aimed at those already learned in French. Lately, the Academy has opposed the incursion of foreign vocabulary into French; A few well-known instances such as "parking" and "weekend," etc., have nevertheless implanted themselves in French in spite of sanctions against such borrowing. The Academy does not officially accept new words until it has been in use at least ten years (Abraham, R.1983). It is obvious the cautious and conservative nature of the French Academy towards language reforms, that can be illustrated by its attitude which is not conductive to the rapid acquisition of new terminology.
The Hebrew Language Academy that attempts, like other language academies, to provide correct words for general use as well as for specialized needs in technology and science. The academy enjoys a position of real authority, as its rulings are binding on all government institutions and thus inevitably on the educational system. The Hebrew Academy shows greater flexibility than its French counterpart in its acceptance of words already in general circulation, even if they do not completely conform to established guidelines (Abraham, R.1983:14-15).

The experience of the above-mentioned countries in language planning and reform can provide useful information for those who seek to effect similar changes in Arabic. It is quite obvious that the radical changes made in Turkey can't be imposed upon Arabic language, that's simply because of the fact that twenty-two countries use Arabic as a national language and none of these countries is there the strong official support for the work of the language planners that existed in Turkey. Even the support and encouragement by governments is insufficient to insure total cooperation among all spheres of government and education with the work of the academies. Hence the impact of their work is inevitably lessened because inability to impose their decisions on those for whom they create new terminology. Arabic language academies may benefit from the experiences of other organizations in implementing and planning a program of modernization for Arabic. The study of another language academies work is certainly one the advantages that can improve and enrich the experience of Arabic Language Academies. We may now turn our attention to these academies; their establishment, organization and function.

### 1.7.1 Arabic Language Academies and Their Goals

The establishment of Arabic Language Academies was the first significant united attempt on the part of Arab scholars and their different governments to deal with the problem of using and expressing of foreign ideas and words in Arabic. Earlier, such institutions had not prospered, but ever-increasing contact with foreign languages and writings necessitated a serious and urgent effort to revitalize the language and render it capable of handling these new challenges. In order to meet these pressing needs, five academies were formed, and all declared their purposes and goals in their charters at the time of foundation (El-Khafaifi 1985).
The academies took the French Language Academy (L'academie Francaise) as a model, which was one of the most prestigious institutions of this type. A number of the Arab scholars who had been sent abroad by their governments on educational missions were deeply impressed by this Academy and had carried back dreams of founding similar organizations and institutions in their countries. They realized, however, that an Arabic language academy faced a more formidable task in the transformation of Arabic into a modern and technically sophisticated language than did the academicians of Western nations.

In discussing the goals of Arabic language Academy Versteegh (1997), states that "From the start, the goal of the Academy wastwofold: to guard the integrity of the Arabic language and preserve it from dialectal and foreign influence, on the one hand, and to adopt the Arabic language to the needs of modern times, on the other" (p.178; quoted in Ryding 2005, P.7).

Abdulaziz (1986) also states:

"Arab academies have played a large role in the standardization of modern written and formal Arabic, to an extent that today throughout the Arab world there is more or less one modern standard variety. This is the variety used in newspapers, newsreel broadcasting, educational books, official and legal notices, academic materials, and instructional texts of all kinds. The three academies that have had the greatest influence are those based in Cairo, Damascus and Baghdad. Among the common objectives of these academies is the development of a common MSA for all Arabic-speaking peoples"(p.17 – quoted in Ryding 2005, p.7-8).

The purpose of such institutions was mainly to revitalize to regenerate Arabic language, thus it would become a viable means of communication in a modern science and technology-oriented world. A corollary of this goal was to create, via various linguistic methods, a new body of terminology that would facilitate the rendering of comprehensible, usable - both for the general literate public and for the elite - technological and scientific material in Arabic. Other terminology was also to be developed for the humanities, arts, natural and social sciences, etc., although in these areas, Arabic exhibited less deficiency than in the fields of science. It is better to
mention that the academies were interested not only in Arabicizing certain terms when necessary, or creating new words from existing Arabic roots, but also in reviving old classical words whose meanings might be applied to modern needs. Preserving the essential purity of the Arabic language was another primary goal of the academies. This entailed careful scrutiny of all proposals for change to ensure compatibility with the phonological, syntactic and morphological structure of Arabic, and an equally cautious response to any suggested modifications of the grammar and writing system. A reluctance to tamper with the fundamental linguistic and grammatical principles of the language was a commonly held attitude in all the academies at the time of their foundation, and still is.

Arabic language academies have also another purpose which is collected, editing, recording, and storing manuscripts of all kinds of preserving classical works, and to publish and reprint them for modern use. Moreover, the academies also encouraged the production of new works by Arab scholars, including translation of foreign works into Arabic. For this purpose they often sponsored competitions for Arab writers in many fields. The establishment of public libraries and museums devoted to the preservation of both older works and new was also among the academies' plans. Many publications and journals issued by these schools that served as a viable means to communicate their research proposals and goals for the enhancement of Arabic language, and offered their members and other contributing writers opportunities to correspond publicly with scholars in other countries.

The theoretical discussions of the Arabic academies were provided to serve as guidelines for the modernization of the language, and to support these proposals the academies worked towards their practical application through the reproduced with the production of glossaries of technical and scientific terms, dictionaries, and other works specifically intended for the use of scholars in the field. One another important goal of the academies was the conversion of the curricula, textbooks, and teaching methods of Arab universities and institutions from foreign languages to Arabic, sometimes the process referred as "Arabization"or "Arabicization". Generally, we can conclude that the academies were founded to enable Arabic to compete successfully in a modern world, and to preserve it from corruption and degradation by ill-considered, overhasty and short-sighted changes and excessive borrowing from foreign tongues. Arabic
language Academies are mentioned below in a historical sequence with a brief discussion about each one.

- **Damascus Academy**

The first of twentieth century Arabic language academies was founded in Damascus in 1919 with only eight members. At its inception, it was known as [al-Majmaṣ al-Ṣīmi al-Ṣarabi] (The Arabic Academy of Science), and nowadays is called [Majmaṣ al-Lughah al-Ṣarabiyyah] (The Arabic Language Academy) Lecomte, G. (1965). Muhammad Kurd Ali was the founder of this academy (1876-1953), an able scholar and linguist. He planned to establish an academy which would be similar to the French academy, and among his main goals was the production of an Arabic dictionary patterned after the French Larousse and the British Oxford dictionary.

There were two major committees in the academy which are: [al-Luajnah al-Lughawiyyah al-Addabiyyah] (The Literary and Linguistic Committee), and [al-Lanjnah al-Ṣīmiyyah al-Fanniyyah] (The Scientific Committee). The first committee, the Literary and Linguistic Committee, were charged with preserving and promoting the purity of the Arabic language. It was also to investigate linguistic or literary problems with the language, with the aim of achieving solutions to these problems. The Scientific Committee was formed to broaden the scope of the arts and sciences and encourage greater endeavor in these areas on the part of artists and scholars. In 1921, the academy initiated the publication of a journal that was originally [Mjallat al-Majmaṣ al-Ṣīmi al-Ṣarabi]; now [Majallat Majmaṣ al-Lughah al-Ṣarabiyyah], that published quarterly. This journal welcomed contributions from both Eastern and Western scholars. The intention was to provide a forum for the discussion of language and other topics that would attract scholars from all disciplines and stimulate a cultural and intellectual exchange of ideas. The academy also gathered and edited Arabic manuscripts and published them in the effort to preserve the legacy of Arabic; an affiliated publishing concern, [Dar al-Kutub al-Zaahiriyah] which located in [al-Madrasah al-Ṣadiliyyah al-Kubraa in Damascus] published many works dealing with the heritage of Islam and the wealth of Arabic language (Lecomte, G. 1965).
- **Baghdad Academy**

The Iraqi Academy of Science or [al-Majmaṣ al-Ṣīmi al-Ṣiraaqi], was found in Baghdad in 1947; it retains its original name to this time. This Academy was established by the Iraqi Ministry of Education and it was patterned on the Damascus Academy. Its charter included many of the same goals and aspirations of Damascus Academy as well. The major goal of this academy, like all of the Arabic language academies, was to maintain the purity of the language and render it more capable of meeting needs of modern times. Membership in the academy was open to both Iraqi nationals and non-Iraqis on the condition that each member should have at least one of the following qualifications which are: 1) A wide knowledge of Arabic language and literature, with a well-established reputation as an author in the field and for solid research capabilities; 2) Specialization in a field of art or in the science, with the ability to compare modern and foreign scientific and technical terminology with current and older Arabic scientific vocabulary; 3) Specialization and demonstrated authorship in the field of Arab history, the history of Iraq, or the history of Islam, including its peoples, their culture and civilization. In 1950 a journal called [Majallat al-Majmaṣ al-Ṣīmi al-Ṣiraaqi] (The Journal of the Iraqi Academy of Science) had been published by the Baghdad Academy. Contributions were invited from members and nonmembers and from all over the Arab world. Publication of this journal, that appears annually, has continued until the present time, offering original articles by prominent scholars in the fields of language, arts, and sciences, and reporting regularly on the activities and accomplishments of other language academies. This academy also has a private publishing branch, [iḥyaaʔ al-Turaath], which prints works of members and other contributors.

- **Amman Academy**

The Jordanian Academy of the Arabic Language or [Majmaṣ al-Lughah al-Ṣarabiyyah al-Urduni] opened in Amman the capital of Jordan in 1975 (Amman academy, first annual report, 1978). The Jordanian Academy followed in the footsteps of the older Arabic language Academies in seeking to preserve Arabic language from corruption and to modernize it as it adapted to meet the needs of modern times. Six committees had been established by the academy, which are: The Committee for Terminology, Dictionaries, Arabization, devoted to the creation of necessary new
vocabulary and its dissemination; The standards Committee, that was concerned with maintaining uniformly high standards in the usage of Arabic; The translation Committee, working with different translation projects from foreign languages; The Committee of [al-Majallah] and printing, that supervised publication of the journal of Amman Academy and of other works; The Committee for the Library, in charge of the Academy's library and related communications with libraries in other academies, institutions, Universities and so on; and The Heritage Committee, which deal with the culture and history of Arabic language and of Jordan as well. Many projects had been embarked by Amman Academy soon after its establishment. These projects included the preparation of a statistical study which involved creating a list of words used in grade school instruction, as part of a proposal to unify elementary education in all Arab countries. Amman Academy also advocated the Arabization of university-level instruction and proposed an intensified translation project to translate all university teaching materials into Arabic as rapid as possible. This is currently ongoing endeavor. The Academy has requested all of the different institutions and ministries of learning in Jordan to provide the academy with all foreign terminology currently in use so that the academy can provide or creates suitable Arabic equivalents, this was as an effort to achieve maximum Arabization throughout the country. The Academy coordinates such efforts with the two universities of Jordan, which are University of Jordan and al-Yarmouk University in the attempt to achieve full Arabization of curricula and standardization.

- Cairo Academy

The Arabic language Academy in Egypt was found on December 13, 1932 by royal decree of King Fu'ad of Egypt. The first name of the Academy was [Majmaṣ al-Lughah al-Ṣarabīyyah al-Malaki] or (The Royal Arabic Language Academy), then in 1938, it was renamed [Majmaṣ Fu'ad al-Awwal li-al-Lughah al-Ṣarabīyyah] or (The Academy of Fu'ad I for the Arabic Language). The Academy receieved its current name [Majmaṣ al-Lughah al-Ṣarabīyyah or (The Arabic Language Academy) after the revolution of 1952 (Madkour. I.1964).

Cairo Academy was to pursue those goals mentioned above and it was particularly active in other areas as well, notably the scientific study of Egyptian colloquial Arabic, as well as the dialects of other Arab countries. Moreover, The Academy devoted much
effort to the modernization of the language and its development of new scientific terminology. Other topics that concerned this body include the simplification of the writing system and the grammar, and the production of a historical dictionary of the Arabic language [Majallat Majmaṣ al-Lughah al-Ṣarabiyyah], is the name of the journal that is issued by Cairo academy for the publication of its findings and works. This journal has always been a forum for linguistic articles and debates bearing on every aspect of the language and is widely circulated throughout the various Arab countries. [Mahadir al-Jalasaat], the minutes of the Academy's meetings, are also published irregularly. The Council of the Academy or [Majlis al-Majmaṣ] presides over the work of the Academy as a whole. It meets once a week from the beginning of October to the end of May, with more meetings scheduled if they appear necessary. The Council administers various functions of the Academy and supervises its activities.

A series of committees belong to Cairo Academy is divided on the basis of various tasks; each committee has two regular active members of the Academy and any member of associates related fields of expertise. Times and places of meetings are chosen freely by the members of those committees. These committees are:

- The Committee of Reviving the Heritage and Legacy of Arabic;
- The Committee on Arts, Architecture and Antiquities;
- The Committee of Literature;
- The Standards Committee which checks the new expressions and terminology for conformity to establish standards;
- The Committee of Civilization;
- The Committee for the Simplification of the writing System;
- Committees dealing with specific subjects or fields include the Geology Committee, the Geography Committee, the History Committee, the Committee for Education and psychology, the Committee for Philosophy and Sociology, and the Committee for Economics, Statistics and Law.

In addition to other committees working within the Academy include the Committee for the Dictionary of the Qur'an and is preparing a comprehensive dictionary for Qur'anic words and expressions. The Committee for the Great Dictionary is collecting, classifying, studying and researching the entire body of the language for the preparation of [al-Muṣjam al-Kabir] 'the Great Dictionary'.

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• **The Permanent Bureau of Coordination (Rabat)**

The Permanent Bureau of coordination of Arabization in the Arab world (PBA) or al-[Maktab al-Da'im li-Tansiq al-Ta'riib fi al-Watan al-Šarabi], was found in Rabat in 1967. This institution, established under the auspices of [al-Munazzamah al-Šarabiyyah li-at-Ta'riib wath-Thaqafah wa-Šulum] or The Arab League Educational, Cultural and science organization (ALECSO), differs from the other Arabic language Academies in that its primary task is the standardization of modern Arabic, rather than the creation of new terminology.

The PBA addresses the needs for transforming Modern Standard Arabic into an adequate vehicle for expressing all aspects of contemporary human knowledge. The main task of the PBA in finding solutions to many problems that confronted Arabic language lies in the collection, arrangement and classification, in Arabic, English and French, of all these scientific and technical terminology produced by the other Arabic language academies, as well as the work of prominent scholars, literary figures, scientists and educators working outside the academies. This compilation of terminology is presented at conferences on Arabization held periodically around the Arab world.

• **The Union of The Arab Academies**

The existing of various Arabic language academies among the Arab countries led them to confront several problems which they realized after their foundation, the major problem was the implementation of their resolutions and decisions on a broad scale. Significant differences existed from country to country and within any one country as well, sometimes the differences are existed within one institution or university. A conference held in Damascus from September 29 to October 4, 1956, was one of the first efforts to coordinate the work of the language academies. Several Arab language academies participated in this conference such as the Syrian, Iraqi and Egyptian academies. The agreement to coordinate and cooperate the efforts of the academies in the modernization of Arabic was the most important achievement of this particular event; this paved the way for future meetings of this kind. Egypt and Syria issued a joint decree, on June 15, 1960, for the establishment of a single academy combining both the Cairo and the Damascus institutions, to be headquartered in Cairo. The chairman was the Minister of Education of the central government, and the plan called
for each academy to have an independent status in administrative and financial matters. As this plan was largely the result of the short-lived political union of Egypt and Syria, the dissolution of that union also dissolved the single academy. The idea of the united academy remained an intriguing one, however, proposals for establishing a pan-Arab academy continued.

1.8 Data Base

The data for the present study was collected from the available corpus and the native speakers of Arabic who have competence in the language. However, as Baayen (1994: 450) highlights, investigating 'word use in a very large text corpora, such as the newspaper corpora that are becoming available' is a more 'reliable way to gauge the productivity of word formation rules' than 'dictionary based counts'. Baayen goes on to comment that 'these collections of daily issues, often comprising tens of millions of tokens, can be scanned for the use of Word-formations or very low frequency items', which was the method used for gathering all of the newly coined words.

However, the corpus utilized comprises a huge number of words from different fields and sources such as Arabic Mass Media: Newspapers, online news websites, TV, Radio etc., as well data was collected from books, research papers and theoretical observations of scholars and researchers. These are some of the major corpora used in the Research. A significant number of words from the corpus, here have been taken for the purpose of analysis. More precise, the words used in the present research can be divided chapterwise as below:

Chapter III. “Morphology of Arabic terminology”, comprises many words, most of them are scientific and technical terms which have been gathered from various sources (i.e. dictionaries and glossaries are produced and published by Arabic language academies notably Cairo language academy, Online dictionaries of scientific and technical terms, especially Al-Ma’aany dictionary (Qamuus Al-Ma’aany al-dgami’)), and research papers and theoretical observations of scholars and researchers.

Chapter IV. “Morphology of Arabic neologisms”, includes words from different fields of the life, which have been collected from different sources (i.e. chiefly but not exclusively, from the Mass Media: Newspapers, online news websites, TV, Radio etc.,
the native speakers of Arabic who have competence in the language, and from research papers and theoretical observations of scholars and researchers.

However, the words utilized are used to illustrate how new words are created through various morphological processes of Modern Standard Arabic (MSA). Moreover, showing the role of the global impact and influence of English on Arabic language as well the impact of the geopolitical situation on MSA. It is also to investigate how linguistics manipulate Arabic to update itself. Proportion of newly coined words referred to but also generated all of the comparative data for analysis used throughout this thesis to show the productivity of the morphological process in Arabic.

1.9 Scope of the Study

This thesis investigates the representations of Arabic words from different fields; mostly those are composed of more than one morpheme with the intended goal of revealing how morphological information is realized in the mental lexicon. Specifically, the present research focuses on the representations of newly coined expressions in Arabic. The study presents evidence that the lexical representations of coined words include associative links to the lexical representations of their component morphemes while others do not. The study investigates the factors that may contribute to the identification and representation of word components. The present study is an attempt to investigate the representations of words used either in the scientific and technical terminology of MSA and those neologisms used in different sources, chiefly in the Arabic mass media. The study attempts to raise some of the pertinent questions like;

- How morphological information is realized in mental lexicon?
- What happens to a new complex or compound word once it has been coined and used by a large number of speakers?
- Which morphological processes are frequently involved in the creation of Arabic terminology?
- What is the productivity of these morphological processes?
- What are the sources of Neologisms in MSA?
Which word formation processes are frequently involved in the formation of Arabic **Neologisms**?

What are the extra-linguistic factors that may be considered as motives for creating **Neologisms in MSA**?