Contrastive and Comparative Study of Affixation in English and Arabic Languages

Shaima’ Al-Mi’mar
Kerbala University
College of Education
Department of English

1. Introduction:
Affixation is a morphological process that adds phonological material to a word in order to change its meaning, syntactic properties, or both (Stranzy, 2005:11). It is the morphological process in which a grammatical or lexical information is added to a stem to form: ('prefixation', 'suffixation', 'infixation').

It is important to understand that the comparison between English and Arabic suffixation is an interesting subject to investigate. Therefore, this study attempts to identify, analyze, and contrast the process of affixation in these two languages in order to reveal the possible universals of the two languages in this field, and to determine as much as possible the similarities and differences between them.

This study provides a general view of the affixation processes in English and Arabic Languages. Section one discusses some related concepts like affix, affixations. Then some general properties that characterize the system of English affixation are introduced, and a survey of some range of suffixes, prefixes, and infixation is presented. Finally derivations and inflection are investigated.

Section two sheds some light on Arabic word formation, some definitions of root, pattern. Then derivational morphology and inflectional morphology as affixes and clitics also investigate.

Finally, section three is specified to discussion and conclusions.
2. What is an affix?

‘Affix’ is a bound morpheme that attaches to bases or stem (Robert, T, 1993:11). It is a collective term for the types of formative that can be used only when added to another morpheme (the root or stem), e.g. unhappy or happiness, etc. (Crystal, 1998:12). Although this seems like a clear definition, there are at least two major problems. First, it is not always easy to say whether something is a bound morpheme or a free morpheme, and second, it is not always obvious whether something should be regarded as a root or an affix.

Bound morpheme is one that must appear with at least one other morpheme (Robins, 1971:196). It is a morpheme that can only occur if attached to some other morpheme. When we apply this definition to the affixes -free, -less, -like, and -wise in morphemes like error-free, careless, lawless, prison-like, it turns out that all four morphemes also occur on their own, and should therefore be classified as free morphemes, and not as affixes.

We can say that an element can occur both as part of a complex word and as a free morpheme. In such cases, only a careful analysis of its linguistic properties can reveal whether the element in question is really the same in both cases. If there are significant differences between the two usages we can safely assume that we are dealing with two different items. If there are no significant differences, the element should be treated as a free morpheme and the pertinent complex word as a compound.

The second problem is concerned with the notion of affix, namely the distinction between an affix and a bound root. Affixes are also obligatorily bound; it is not particularly obvious what the difference between a bound root and an affix may be. (Root is a form which is not further analyzable, either in terms of derivational or inflectional morphology (Bauer, 1983:20). It is the central meaningful element of the word, to which affixes can attach. But when can we call an element central, when non-central? This problem is prominent with a whole class of words which are formed on the basis of morphemes that are called neoclassical elements. These elements are lexemes that are originally borrowed from Latin or Greek, but their combinations are of modern origin. Examples of neoclassical word-formation like biochemistry, photograph, geology, biorhythm, photoionize, biology, etc.

It is not clear whether the italicized elements should be regarded as affixes or as bound roots. If bio- is considered prefix, and -logy is suffix, we are faced with the problem that words such as biology would consist of a prefix and a suffix. However, we are not dealing here with affixes, but with bound roots, so that we are in fact talking about cases of compounding, and not of affixation. Speakers of English that are familiar with such words or even know some Greek would
readily say that bio- has the meaning ‘life’, so they behave as compounds on the basis of native words. For instance, a blackboard is a kind of board, a kitchen sink is a kind of sink, a university campus is a kind of campus, etc.

(Crystal, OPC.:12) states that affixes are limited in number in a language, and are generally classified into three types, depending on their position with reference to the root or stem of the word: those which are added to the beginning of a root/stem are called (prefixes), e.g. unhappy; those which follow are (suffixes), e.g. happiness; and those which occur within a root/stem are (infixed). There are some other less common terms include circumfix or ambifix, for a combination of prefix and suffix (as in en-light-en). The morphological process whether adds grammatical or lexical information to a stem is known as affixation (‘prefixation’, ‘suffixation’, ‘infixation’).

2.1. Suffixes in English Language

2.1.1 Nominal suffixes

Plag (2002:97) states that nominal suffixes are frequently employed to derive abstract nouns from verbs, adjectives and nouns. Such abstract nouns can indicate actions, results of actions, or other related concepts, but also properties, qualities and the like. Another large group of nominal suffixes derives person nouns of various sorts. Very often, these meanings are extended to other, related senses so that practically each suffix can be shown to be able to express more than one meaning, with the semantic domains of different suffixes often overlapping. There are many example of nominal suffixes like:

-age

This suffix derives nouns that express an activity (or its result) as in coverage, leakage, spillage, and nouns denoting a collective entity or quantity, as in acreage, voltage, yardage.

-al

A number of verbs take -al to form abstract nouns denoting an action or the result of an action, such as arrival, overthrowal, recital, referral.

-ance (with its variants -ence/-ancy/-ency)

Attaching mostly to verbs, -ance creates action nouns such as absorbance, riddance, retardance. The suffix is closely related to -cy/-ce, which attaches productively to adjectives ending in the suffix -ant/-ent. Thus, a derivative like dependency could be analyzed as having two suffixes (depend-ent-cy) or only one (depend-ency). (Marchand 1969:248).

-ant

This suffix forms count nouns referring to persons (often in technical or legal discourse, cf. applicant, defendant, disclaimant), attractant, dispersant.
-cy/-ce
As already mentioned in connection with the suffix -ancy, this suffix attaches productively to adjectives in -anti/-ent (e.g. convergence, efficiency, emergence), or agency, presidency, regency.

-dom
The native suffix -dom is semantically closely related to -hood, and -ship, which express similar concepts. -dom attaches to nouns to form nominals which can be paraphrased as ‘state of being X’ as in apedom, clerkdom, , or which refer to collective entities, such as professordom, studentdom, or denote domains, realms or territories as in kingdom, cameldom, maoridom.

-ee
The meaning of this suffix can be rather clearly discerned. It derives nouns denoting sentient entities that are involved in an event as non-volitional participants. Thus, employee denotes someone who is employed, a biographee is someone who is the subject of a biography.

-eer
This is another person noun forming suffix, whose meaning can be paraphrased as ‘person who deals in, is concerned with, or has to do with X’, as evidenced in forms such as auctioneer, budgeteer, cameleer, mountaineer.

-(e)ry
Formations in -(e)ry refer to locations which stand to connect to what is denoted by the base, like: bakery, brewery, fishery, pottery.

-ess
This suffix derives a comparatively small number of mostly established nouns referring exclusively to female humans and animals (princess, stewardess, lioness, tigress, waitress, hostess, burgheress, clerkess.

-ful
The nominal suffix -ful derives measure partitive nouns (similar to expressions such as a lot of, a bunch of) from nominal base words that can be construed as containers: bootful, cupful, handful, tumblerful, stickful.

-hood
Similar in meaning to -dom, -hood derivatives express concepts such as ‘state’ (as in adulthood, childhood, farmerhood), and ‘collectivity’ (as in beggarhood, Christianhood, companionhood).

-an (and its variants -ian, -ean)
Nouns denoting persons and places can take the suffix -an. Derivatives seem to have the general meaning ‘person having to do with X’ (as in technician.

-ion
This Latinate suffix has three allomorphs: when attached to a verb in -ify, the verbal suffix and -ion surface together as -ification (personification).

-ist
This suffix derives nouns denoting persons, mostly from nominal and adjectival bases (ballonist, careerist, fantasist, minimalist).

-ity
Words belonging to this morphological category are nouns denoting qualities, states or properties usually derived from Latinate adjectives (e.g. curiosity, productivity, profundity, solidity).

-ship
The suffix -ship forms nouns denoting ‘state’ or ‘condition’, similar in meaning to derivatives in -age, -hood and -dom. Like friendship, relationship

2.1.2. Verbal suffixes
There are four suffixes which derive verbs from other categories (mostly adjectives and nouns), -ate, -en, -ify and -ize.

-ate
Forms ending in this suffix represent a rather heterogeneous group. There is a class of derivatives with chemical substances as bases, which systematically exhibit so called or native and resultative meanings. These can be paraphrased as ‘provide with X’ (or native), as in fluorinate.

-en
The Germanic suffix -en attaches to monosyllables that end in a plosive, fricative or affricate. Most bases are adjectives (e.g. blacken, broaden, quicken, ripen), but a few nouns can also be found e.g. strengthen, lengthen.

-ify
This suffix attaches to base words that are either monosyllabic, stressed on the final syllable or end in unstressed /ɪ/. Neologisms usually do not show stress shift, but some older forms do (húmid - humidify, sólid - solidify).

-ize
Both -ize and -ify are polysemous suffixes, which can express a whole range of related concepts such as locative, ornative, causative/factitive, resultative, inchoative, performative, simulative.

2.1.3 Adjectival suffixes
The adjectival suffixes of English can be subdivided into two major groups. A large number of derived adjectives are relational adjectives, whose role is simply to relate the noun the adjective qualifies to the base word of the derived adjective. For example, algebraic mind means ‘a mind having to do with algebra, referring to algebra, characterized by algebra’. On the other hand, there is a large group of derived adjectives that express more specific concepts, and which
are often called qualitative adjectives. Sometimes, relational adjectives can adopt qualitative meanings, as can be seen with the derivative *grammatical*, which has a relational meaning ‘having to do with grammar’ in the sentence *she is a grammatical genius*, but which also has a qualitative sense ‘conforming to the rules of grammar’, as in *this is a grammatical sentence*.

-able

The suffix chiefly combines with transitive and intransitive verbal bases, as in *deterrable* and *perishable*, respectively, as well as with nouns, as in *serviceable*, *fashionable*.

-al

This relational suffix attaches almost exclusively to Latinate bases (*accidental, colonial, cultural, federal, institutional, modal*).

-ary

Again a relational adjective-forming suffix, -ary usually attaches to nouns, as in *complementary, evolutionary, fragmentary, legendary, precautionary*.

-ed

This suffix derives adjectives with the general meaning ‘having X, being provided with X’, as in *broad-minded, pig-headed, wooded*.

-esque

The suffix -esque is attached to both common and proper nouns to convey the notion of ‘in the manner or style of X’: *Chaplinesque, picturesque*.

-ful

Adjectival -ful has the general meaning ‘having X, being characterized by X’ and is typically attached to abstract nouns, as in *beautiful, insightful, purposeful, tactful, forgetful, mournful, resentful*.

-ic

Being another relational suffix, -ic also attaches to foreign bases (nouns and bound roots). Quite a number of -ic derivatives have variant forms in -ical (electric - electrical, economic - economomical, historic – historical).

-ing

This verbal inflectional suffix primarily forms present participles, which can also be used as adjectives in attributive positions (and as nouns, see above).

-ish

This suffix can attach to adjectives (e.g. clearish, freeish, sharpish), numerals (fourteenish, threehundredfourtyish).

-ive
This suffix forms adjectives mostly from Latinate verbs and bound roots that end in [t] or [s]: connective, explosive, fricative, offensive, passive. 

-less

Semantically, -less can be seen as antonymic to -ful, with the meaning being paraphrasable as 'without X': expressionless, hopeless, speechless.

-ly

This suffix is appended to nouns and adjectives. With base nouns denoting persons, -ly usually conveys the notion of 'in the manner of X' or 'like an X', as in brotherly, daughterly, fatherly, womanly.

-ous

This suffix derives adjectives from nouns and bound roots, the vast majority being of Latinate origin (curious, barbarous, famous, synonymous).

2.1.4 Adverbial suffixes

-ly

The presence of this exclusively de-adjectival suffix is for the most part syntactically obligatory, and it can therefore be considered inflectional.

-wise

This suffix derives adverbs from nouns, with two distinguishable sub-groups: manner/dimension adverbs, and so-called view-point adverbs. The former adverb type has the meaning 'in the manner of X, like X' as in the towel wound sarongwise about his middle, or indicates a spatial arrangement or movement, as in The cone can be sliced lengthwise.

2.2 Prefixes

Plag (ibid:98) believes that prefixes of English can be classified semantically into the following groups: firstly, there is a large group that quantity over their base words meaning, for example, ‘one’ (uni-, unilateral, unification), ‘twice or two’ (bi-, bilateral, bifurcation and di-, disyllabic, ditransitive), ‘many’ (multi-, multi-purpose, multi-lateral and poly-, polysyllabic, polyclinic), ‘half’ (semi-, semi-conscious, semi-desert), etc.

Secondly, there are numerous locative prefixes such as circum- ‘around’ (circumnavigate, circumscribe), counter- ‘against’ (counterbalance, counterexample), endo-‘internal to X’ (endocentric, endocrinology), etc.

Third, there are temporal prefixes expressing notions like ‘before’ (ante-, preand fore-, as in antechamber, antedate, preconcert, predetermine, premedical, forefather, foresee), ‘after’ (post-, poststructuralism, postmodify, postmodern), or ‘new’ (neo-, neoclassical, Neo-Latin). A fourth group consists of prefixes expressing negation (a(n)-, de-, dis-, in-, non-, un).

Numerous prefixes do not fit into any of the four groups, however, and express diverse notions, such as ‘wrong, evil’ (mal-, malfunction, malnutrition),
`badly, wrongly' (mis-, misinterpret, mistrial), etc. The vast majority of prefixes do not change the syntactic category of their base words, they merely act as modifiers (Katamba and Stonham, 2006: 138). Furthermore, it can be observed that they generally attach to more than one kind of syntactic category (verb, adjective, or noun) and do not influence the stress pattern of their bases (Robert, 1978: 200).

In the following we look in more detail at the negative prefixes and two of their close relatives, mis- and anti-. The negative prefixes appear to be more complex in their distribution and behavior than most of the other suffixes and their domains overlap considerably.

\textit{a(n)-}

This prefix only occurs in Latinate adjectives. With denominal adjectives, the meaning can either be paraphrased as 'without what is referred to by the nominal base', cf. for example achromatic ‘without color’, asexual ‘without sex’, or can be paraphrased as ‘not X’, as in ahistorical, asymmetrical.

\textit{anti-}

This polysemous prefix can express two different, but related notions. In words like anti-war, anti-abortion, anti-capitalistic, anti-scientific, anti-freeze, anti-glare it can be paraphrased as ‘against, opposing’.

\textit{de-}

This prefix attaches to verbs and nouns to form reversative or privative verbs: decolonize, decaffeinate, deflea, depollute, dethrone, deselect. Very often, de-verbs are parasynthetic formations, as evidenced by, decaffeinate. dis-

Closely related semantically to un- and de-, the prefix dis- forms comes from foreign verbal bases: disassemble, disassociate, discharge, disconnect.

\textit{in-}

This negative prefix is exclusively found with Latinate adjectives and the general negative meaning ‘not’: inactive, intolerable implausible, illegal.

\textit{mis-}

Modifying verbs and nouns (with similar bracketing problems as those mentioned above for dis-), mis- conveys the meaning ‘inaccurate(ly), wrong(ly)’: misalign, mispronounce, et.

\textit{non-}

When attached to adjectives this prefix has the general meaning of ‘not X’: nonbiological, non-commercial, non-returnable. In contrast to un- and in-, negation with nondoes not carry evaluative force, as can be seen from the pairs unscientific vs. nonscientific, irrational vs. non-rational.

\textit{un-}
un- can attach to verbs and sometimes nouns (mostly of native stock) to yield a reversative or privative ('remove X') meaning: unbind, uncork.

2.3 Infixation

Morphologists mainly agree that English has no infixes. However, there is the possibility of inserting expletives in the middle of words to create new words expressing the strongly negative attitude of the speaker (e.g. kanga-bloody-roo, absoblooming- lutely). Thus we could say that English has a process of infixation of (certain) words, but there are no bound morphemes that qualify for infix status(ibid).

In this section we have looked at numerous affixational processes in English. A survey of affixes was provided that exemplified the wide range of derivational patterns available in the language. We saw that suffixation and prefixation are very common, whereas infixation is a marginal and extremely restricted phenomenon in English word-formation.

2.4 Inflection and derivation

‘word-formation’ is the study of the ways in which new complex words are built on the basis of other words or morphemes (Matthews, 1974:132). If we consider the italicized words in kicks in He kicks the ball or drinking in The baby is not drinking her milk. They should be regarded as ‘new words’ according to the definition. The italicized words in are certainly complex words, both of them consist of two morphemes. Kicks consists of the verb kick and the third person singular suffix -s, drinking consists of the verb drink and the participial suffix –ing. However, we would not want to consider these complex words ‘new’ in the same sense as we would consider kicker a new word derived from the verb kick. Here the distinction between word-form and lexeme is useful. We would want to say that suffixes like participial -ing, plural -s, or third person singular -s create new word-forms, i.e. grammatical words, but they do not create new lexemes. In contrast, suffixes like -er and -ee (both attached to verbs, as in kicker and employee), or prefixes like re- or un- (as in rephrase or unconvincing) do form new lexemes. On the basis of this criterion (i.e. lexeme formation), a distinction can be made between inflection (i.e. conjugation and declension in traditional grammar) as part of the grammar on the one hand, and derivation and compounding as part of word-formation (or rather:lexeme formation) (Bauer, 1983:22).

If we look at the following data which show further characteristics by which the two classes of morphological processes, inflection vs. word-formation, can be distinguished

a. derivation
   worker
b. inflection

(he) workers (noun plural)
(is) discussing (present participle)
(she) works (present third-person singular)
(we) picked (past tense)
chosen game (past participle)
Susan’s (house) (noun possessive)
She is older (comparative)
She is the oldest (superlative) (Stageberg, 1971:112).

As previously mentioned, the most critical difference is that inflectional morphemes encode grammatical categories such as plural (workers), person (works), tense (picked), or case (Susan’s). These categories are related to the building of sentences and are referred to by the grammar. For example, there is a grammatical rule in English that demands that a third person singular subject is followed by a verb that is also marked as third person singular. This is called subject-verb agreement, which is also relevant for plural marking in sentences (The views are/"is wonderful). The plural and person suffixes are therefore syntactically relevant, hence inflectional.

One can say that the suffix -er in worker is also syntactically relevant, in the sense that it is important for the syntax whether a word is a noun or a verb. That is of course true, but only in a very limited way. Thus, it is not relevant for the syntax whether the noun ends in -er, -ee, -ion, or whether the noun is morphologically complex at all. In that sense, derivational suffixes are not relevant for the syntax.

Concerning the position of the morphemes, in English derivational morphemes can occur at either end of the base words whereas regular inflection is always expressed by suffixes. Only irregular inflection makes use of non-affixational means, as for example in mouse - mice or sing - sang. There is no inflectional prefix in English. Furthermore, forms like workers or colonializing indicate that inflectional morphemes always occur outside derivational morphemes, they close the word as closed system, while derivational suffixes like un-truthful-ness or dis-establish-ment-arian-ism, can and do occur inside
other derivational suffixes and involve many variables in an open system (Bauer, Op cit.29).

Additionally, there is a difference related to the part of speech. The suffixes in the derivation change the part of speech of the base word. For instance, the suffixation of -less makes an adjective out of a noun, the suffix -ity makes a noun out of an adjective, and the suffix -ize turns an adjective into a verb. The inflectional suffixes do not change the category of the base word. A plural marker on a noun does not change the category, nor does the past tense marker on the verb. However, not all derivational affixes are category-changing, for example, post-war, decolonize, non-issue), or by the nominal suffix -ism, which can attach to nouns to form nouns (e.g. Terrorism).

Derivation has a property which is not found in inflection exemplified by the two derivatives interview and curiosity. that is called semantic opacity. If you consider the meaning of interview and the meaning of the ingredient morphemes inter- and view, you can observe that the meaning of interview is not the sum of the meaning of its parts. The meaning of inter- can be paraphrased as ‘between’, that of (the verb) view as ‘look at something’ (definitions according to the Longman Dictionary of Contemporary English), whereas the meaning of (the verb) interview is ‘to ask someone questions, especially in a formal meeting’. Thus the meaning of the derived word cannot be inferred on the basis of its constituent morphemes, it is to some extent opaque, or nontransparent. Nontransparent formations are quite common in derivational morphology, but rare in inflection.

Closely related to this generalization is the fact that inflectional categories tend to be fully productive, whereas derivational categories often show strong restrictions as to the kinds of possible combinations. A productive morpheme is one that can be attached regularly to any word of the appropriate class. For example, a morpheme expressing past tense can occur on all regular main verbs. And a morpheme expressing plural on nouns can be said to be fully productive, too, because all count nouns can take plural endings in English (some of these endings are irregular, as in ox-en, but the fact remains that plural morphology as such is fully productive). Note that the ‘appropriate class’ here is the class of count nouns; non-count nouns (such as rice and milk) regularly do not take plural. In contrast to the inflectional verbal and nominal endings just mentioned, not all verbs take the adjectival suffix -ive, nor do all count nouns take adjectival suffix –al.

The nature of the restrictions that are responsible for the impossibility in derivational morphology in general are not always clear, but are often a complex mixture of phonological, morphological and semantic mechanisms. One can say,
no matter what these restrictions in derivational morphology turn out to be, inflectional domains usually lack such complex restrictions.

3. Arabic Affixation

3.1 From Words to Morphemes
The main language modeling challenge posed by Arabic is brought on by its complex morphology, the way that words are built up from smaller parts. In Arabic, as in English, most words can be broken down into morphemes. Three morphemes comprise each word: a prefix, a stem, and a suffix. Taken together, prefixes and suffixes are called affixes. For instance, in the English word unthinkable, there is a prefix: un-, a stem: think, and a suffix: -able. The affixes un- and -able are used in many English words with reliable meaning.

3.2 Arabic Word Formation
Morphology, or word structure, revolves around the organization, rules, and processes concerning meaningful units of language, whether they are words themselves or parts of words, such as affixes of various sorts. Meaningful components and subcomponents at the word level are referred to as morphemes (Aranoff, 1976:7). Arabic morphology is different from English in some very basic respects but it is highly systematic. In fact, Arabic and the Semitic languages have had substantial influence on the development of certain key concepts in theoretical morphology (ibid:9).

Theories of word structure, or morphology, usually focus on two essential issues: how words are formed (derivational or lexical morphology) and how they interact with syntax (inflectional morphology, e.g., marking for categories such as gender, number, case, tense).

Ryding (2005:44) defines derivational or lexical morphology as the principles governing word formation (such as analysis of the English words “truthful” or “untruthfulness”) derived from the base word “true”). While Inflectional morphology describing how words vary or inflect in order to express grammatical contrasts or categories, such as singular/plural or past/present tense. Derivation, since it is the process of creating words or lexical units, is considered procedurally prior to inflection, which subsequently acts upon the word stem and modifies it, e.g. affixing /-s/ in English for plural, or /-ed/ for past tense). These are two fundamental categories, therefore, in approaching language structure. However, the boundaries between derivation and inflection are not as clear-cut in Arabic as they are in English because Arabic morphology works on different principles, and because Arabic morphological theory views elements of word structure and sentence structure from a different perspective.
(Watson, 2007:4) states that Arabic has a rich morphology characterized by a high degree of affixation, interspersed vowel patterns, and roots in word stems. Arabic is a Semitic language. The grammatical system of the Arabic language is based on a root-and-pattern structure and Arabic is considered as a root-based language with many roots and patterns. The root is the bare verb form. It is commonly three or four letters and, rarely, five. Pattern can be thought of as a template adhering to well-known rules. Arabic words are divided into nouns, verbs, and particles. Nouns and verbs are obtained from roots by applying templates to the roots in order to generate stems and then by introducing prefixes and suffixes.

3.2.1 A definition of root

A root is a relatively invariable discontinuous bound morpheme, represented by two to five phonemes, typically three consonants in a certain order, which interlocks with a pattern to form a stem and which has lexical meaning (Ryding, OPCSIT:47).

The root morpheme /k-t-b/ is “discontinuous” because vowels can be interspersed between those consonants; however, those consonants must always be present and be in the same sequence: first /k/, then /t/, then /b/. The usual number of consonants in an Arabic root is three and these constitute “by far the largest part of the language” (Haywood and Nahmad, 1962: 261). However, there are also two-consonant (biliteral), four-consonant (quadriliteral) (such as z-l-z-l, b-r-h-n, t-r-j-m), and five-consonant roots (quinquiliteral) (such as b-r-n-m-j).

The root is said to contain lexical meaning because it communicates the idea of a real-world reference or general field denotation (such as “writing”). It might say that a lexical root is denoting a semantic field because it is within that field that actual words come into existence, each one crystalizing into a specific lexical item.

3.2.2 A definition of pattern

A pattern is a bound and in many cases, discontinuous morpheme consisting of one or more vowels and slots for root phonemes (radicals), which either alone or in combination with one to three derivational affixes, interlocks with a root to form a stem, and which generally has grammatical meaning (ibid:48).

The pattern is defined as discontinuous because it intersperses itself among the root consonants (as in the word kaatib). It is considered as a kind of template onto which different roots can be mapped (ibid). The derivational affixes mentioned in the definition include the use of consonants that mark grammatical functions, such as the derivational prefix mu- for many participles, the prefix
mafor a noun of place, or the relative adjective suffix /-iyy/. Consonants that are included in Arabic pattern formation are: /\lam/ (hamza), /\lám/ (taa), /\lám/ (miim), /\lám/ (nuun), /\lám/ (siin), /\lám/ (yaaw), and /\wáw/ (waaw). These consonants may be used as prefixes, suffixes or even infixes. One further component of patterning is gemination or doubling of a consonant. Therefore, the components of Modern Standard Arabic pattern-formation include: six vowels (three long: /\aa/, /\ii/, /\uu/; three short: /\a/, /\i/, and /\u/); seven consonants (\lam, \t, \m, \n, \s, \y, \w); and the process of gemination.

Patterns are said to possess grammatical (rather than lexical) meaning because they signify grammatical or language-internal information; that is, they distinguish word types or word classes, such as nouns, verbs, and adjectives. They can even signal very specific information about subclasses of these categories. For example, noun patterns can readily be identified as active participle, noun of place, noun of instrument, or verbal noun, to name a few. Because patterns are limited to giving grammatical or intralinguistic information, there are fewer Arabic patterns than roots.

3.3 Derivational Morphology: Roots, Patterns, and Vocalisms

Most Arabic words are analyzed as consisting of two morphemes – a root and a pattern – interlocking to form one word. Neither an Arabic root nor a pattern can be used in isolation; they need to connect with each other in order to form actual words.

An example letter sequence is illustrating the morphological process which is/شهر/ /Shr/ this sequence is a root: a series of three, or sometimes four, letters (radicals) that signifies some broad set of concepts. The set of concepts expressed by words of a given root may be related, but may also vary widely. A root alone is not a fully-formed word; it has no part of speech, and is usually highly ambiguous in its meaning. In the theory of (McCarthy, 2002: 43) and others, a root is a morpheme. In order to become a word, the root must be combined with two other morphemes, a pattern and a vocalism. For instance, the root /شهر/ /Shr/ can combine with the pattern /فعل/ /f, l/, where ‘f’ represents the first radical, ‘l’ represents the second radical, and ‘l’ the third radical. By combining the root with this pattern, the stem /شهر/ /Shr/ is realized. The vocalism is the third morpheme, crucial both to the pronunciation of the word and to giving the word its specific grammatical properties. The vocalism /-a-a-/ when combined with this root and pattern, forms [شهر.] [Sahara], now a fully-formed word with a dictionary-defined meaning: “made well-known, famous, renowned, notorious.”
The verb is in the perfect tense, and agrees with a subject that is third person, singular, and masculine.

Each pattern and vocalism is part of a paradigm. There are approximately 14 paradigms, each with its own pattern and set of vocalisms. These paradigms are integral to the morphological processes of Arabic. The choice of paradigm determines the shape of the word (regarding whether there are consonants in the stem other than the root letter) as well as the meaning of the word. The pattern /فعل/ ف akt/ used in the last example is that of the first paradigm, also considered a base form, the pattern from which all others are derived. If the root /شهر/ ش e = r/ instead combines with the pattern of paradigm III, /ف akt/ ف akt/ /fa:ʔ l/ the letter alif is inserted between the first and second radicals to derive the stem /شهر/ ش e a :ʔ l/. Together with the same vocalism as before, the word [Sa:har] is created, a perfect tense word with the meaning “hired or rented on a monthly basis”. The short vowel after the first radical is assimilated into the long vowel of the pattern.

By combining the same root with the pattern of paradigm VIII, /فعل/ ف akt/ /ftakt/, and the same vocalism, [Stahara] is derived, with the meaning “to be or become well-known, famed, famous, to be known; to be widespread, common”. Here the first short vowel comes after the ت t/ of the pattern because the pattern has caused a change in the syllable structure: the letters ف f/ inserted around the first radical ت t/ cause the ف f/ to be at the end of the syllable, rather than the beginning. The short vowel is therefore moved to the second syllable.

Some of the patterns have a predictable semantic effect on the word. Stems formed from paradigm II are often transitive or causative, for instance, the word [ تقوم] ت ق  m a: la “to know” in paradigm I becomes علم ع ل m a: la “to teach” in paradigm II. Stems formed with paradigm V tend to have a reflexive meaning: the same example becomes [تعلم] ت ق  m a: la “to learn” in paradigm V. Other vocalisms are also possible, and these can change the word either inflectionally or derivationally. For instance, the vocalism /a-u/ is used to form stems in the imperfect tense. This vocalism combined with /شهر/ ش e = r/ and the pattern /فعل/ ف akt/ /ftakt/ produces the stem /ش e a :ʔ l/ /Sharul/, meaning “to make famous...” in the imperfect tense. However, this stem is not yet a grammatical word; inflectional affixes must be added to specify the person, number, and gender of the verb.

For instance, the prefix /ي/ /ja-/ is added to the stem to derive the third person...
singular masculine form [jaSharu]. As a further exploration of the ways in which a single root can be transformed into many different words, Table reproduces the entries for the root /شَهْر/ as given in the Hans Wehr Arabic-English Dictionary, annotated with information about patterns, vocalisms, and pronunciations.

3.4. Inflectional Morphology: Affixes and Clitics

Just as the prefix /ي - /já/- attaches to the imperfect stem /شَهْر/ /Sharu/ to create the third person singular masculine form of the verb, other affixes may be added to achieve other grammatical details. Inflectional affixes refer to phonological changes a word undergoes as it is being used in context. In English, some common inflectional categories are: number (singular and plural), tense (e.g., past, present), and voice (active and passive).

Generally speaking, Arabic words are marked for more grammatical categories than are English words. Some of these categories are familiar to English speakers (such as tense and number) while others, such as inflection for case or gender, are not. There are eight major grammatical categories in Arabic: tense/aspect, person, voice, mood, gender, number, case, definiteness. Six of these apply to verbs (tense/aspect, person, voice, mood, gender, number), four apply to nouns and adjectives (gender, number, case, definiteness), and four apply to pronouns (person, gender, number and – to a limited extent – case). Affixes are a closed class of morphemes, and they encode predictable information. In addition to inflection, cliticization is commonplace in Arabic text. Prepositions, conjunctions, and possessive pronouns are all expressed as proclitics or enclitics.

The Arabic stem /درس/ /dras/, meaning to study, combines with the imperfect tense verb pattern and vocalism /فعل - /Fálu/ to form the imperfect tense stem /درس /drusu/. This stem can be combined with 11 different combinations of inflectional affixes, creating as many unique word forms. The English counterpart stem, however, can take on the same meanings using far fewer unique word forms. Instead, English uses separate words - I, they, he, etc. - rather than affixes to express person and number. The verb itself has only two forms, study and studies.

The list can be expanded with stems from the same root representing different tenses. For instance, the stem (and word) [درس - /دارس/ [darasa] means he studied. Or, the root can be combined with a different pattern to obtain different meanings, for instance, to teach or to learn. Each of these stems can combine with the same or different affixes to create a similar number of varying word
forms. Adding a single clitic to the words will double the number of word forms. For instance, the word إدرا́س [؟ادرusu], meaning I study, can take on the enclitic /ه/ /ha/ to form [؟ادرusuha] I study it. Various clitics can be combined, both before and after the stem. This process quickly increases the number of possible word forms.

<table>
<thead>
<tr>
<th>Arabic</th>
<th>Transliteration</th>
<th>Translation</th>
<th>Arabic Affixes</th>
<th>English Affixes</th>
</tr>
</thead>
<tbody>
<tr>
<td>أندرس</td>
<td>?adrusu</td>
<td>I study</td>
<td>a-</td>
<td></td>
</tr>
<tr>
<td>ندرس</td>
<td>nadrusu</td>
<td>We study</td>
<td>na-</td>
<td></td>
</tr>
<tr>
<td>تدرس</td>
<td>tadrusu</td>
<td>You (ma)study</td>
<td>ta-</td>
<td></td>
</tr>
<tr>
<td>تدرسين</td>
<td>tadrusin</td>
<td>You (fs)study</td>
<td>ta-, ina</td>
<td></td>
</tr>
<tr>
<td>تدرسان</td>
<td>Tadrusa:n</td>
<td>You(dual)study</td>
<td>ta-,a:n</td>
<td></td>
</tr>
<tr>
<td>تدرسون</td>
<td>tadrusun</td>
<td>You(mp)study</td>
<td>ta-,n</td>
<td></td>
</tr>
<tr>
<td>تدرس</td>
<td>tadrusna</td>
<td>You(fp)study</td>
<td>ta-,na</td>
<td></td>
</tr>
<tr>
<td>يدرس</td>
<td>jadrusu</td>
<td>He studies</td>
<td>ja-</td>
<td>-ies</td>
</tr>
<tr>
<td>تدرس</td>
<td>tadrusu</td>
<td>She studies</td>
<td>ta-</td>
<td>-ies</td>
</tr>
<tr>
<td>يدرسان</td>
<td>Jadrusa:n</td>
<td>They (dual)study</td>
<td>ja-,a:n</td>
<td></td>
</tr>
<tr>
<td>يدرسون</td>
<td>jadrusun</td>
<td>They (mp)study</td>
<td>ja-,n</td>
<td></td>
</tr>
<tr>
<td>يدرس</td>
<td>jadrusna</td>
<td>They (fp)study</td>
<td>ja-,na</td>
<td></td>
</tr>
</tbody>
</table>
4. Discussion and Conclusions

Morphology deals with the internal structure of word-form (Lyons, 1968:194). In morphology, the analyst divides word-forms into their component formatives (most of which are morphs realized realizing roots or affixes), and attempts to account for the occurrence of each formative. Morphology can be divided into two main branches, inflectional morphology and word-formation (also called lexical morphology: Matthews, 1974:41). Inflectional morphology deals with the various forms of lexemes, while word-formation deals with the formation of new lexemes from given bases. Word-formation can, in turn, be subdivided into derivation and compounding (composition). Derivation is concerned with the formation of new lexemes by affixation, compounding with the formation of new lexemes from two (or more) potential stems. Derivation is sometimes also subdivided into class-maintaining derivation and class-changing derivation. Class-maintaining derivation is the derivation of new lexemes which are of the same form class (part of speech) as the base form which they are formed,
whereas class-changing derivation produces lexemes which belong to different form classes from their bases.

From the generally previous outlook one can conclude that there are some similarities and other differences between English and Arabic Language in the issue of affixation which can be summarized as follows:

1. Similarities

   English (as an Indo-European language) and Arabic (as a Semitic language) are completely different in their linguistic forms, but they share the same universals of language, for example, similarities of affixation terms. There is also similarities of affixation function in English and Arabic which give a certain semantic indication if they are class-maintaining affixes or class-changing, or if they form concrete nouns or the ones which have a deverbal function. Moreover, all the derivational affixes occur closer to the root than the inflexional affixes.

2. Differences

   The main differences between English and Arabic in Affixation are:

   There are no infixes at all in English, while the Arabic language depends mainly on infixes to make new derivative lexemes. Suffixes in Arabic are restricted in their use to certain situations, such as the feminine marker \( \text{[t]} \) or the suffix \( \text{[iyya]} \) which forms abstract nouns from verbal or concrete nouns, while the English language tends to use suffixes in a productive manner to generate a huge corpus of nouns. Prefixes, on the other hand, in Arabic seem to be limited; they are just six (a, t, ?, in, ist, ma/ mu), while the English prefixes are numerous and varied. The affixes in Arabic may often be realized orthographically with one letter, but the English affixes are often realized with more than one letter.

   Arabic morphology differs from that of English or other Indo-European languages because it is to a large extent based on discontinuous morphemes. It consists primarily of a system of consonant roots which interlock with patterns of vowels (and sometimes certain other consonants) to form words, or word stems.

   In English, derivational affixes are stem-forming. Derivation is a continuing process, with some affixes still producing new words. English has derivational prefixes and suffixes as well. Arabic and English do not share any derivational affixes (equivalent forms).

   Arabic words are marked for more grammatical categories than are English words. Some of these categories are familiar to English speakers (such as tense and number) while others, such as inflection for case or gender, are not. There are eight major grammatical categories in Arabic: tense/aspect, person, voice, mood, gender, number, case, definiteness. Six of these apply to verbs (tense/aspect, person, voice, mood, gender, number), four apply to nouns and
adjectives (gender, number, case, definiteness), and four apply to pronouns (person, gender, number and – to a limited extent – case).

To sum up, there are two ways in which Arabic differs from English in its morphology: there are many more affixes, which change across regional dialects, and the stem morphemes have an additional internal structure. The number of different affixes in Arabic leads to a large number of word forms: the combinations of prefix, stem, and suffix multiply as the number of affixes increase. Consequently, there are a larger number of word forms.

References


