

Intransitivity and the Causative Alternation Phenomenon in Arabic

by

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ABSTRACT

This thesis offers a contrastive analysis of the causative alternation phenomenon in English and Standard Arabic variety. This phenomenon has received a lot of attention in the literature on argument structure. It has traditionally been presented in terms of the causativization of inchoative verbs/unaccusatives. It is argued here that this analysis conflicts with the way the causative alternation is molded in Arabic. Causative alternation in Arabic is not only limited to inchoative verbs, but it incorporates unergative verbs as well, which play a vital role in this alternation. The implication of this observation is that the different syntactic behaviors between English and Arabic may reflect people's different perception of events and lead to different syntactic computation. Therefore, this thesis highlights the role of this subset of intransitives/anti-causatives in the Arabic causative alternation and answers one of the highly considered questions on the causative alternation; that is, which version of the alternation is the lexical base, and which one is derived? This thesis also reveals that there is some significant difference between English and Arabic in terms of the alternatability of unaccusative verbs. Therefore, this study shows that most of the Arabic unaccusative verbs, except denominal verbs, have a causative alternant. This thesis also addresses the vital role of the Arabic verbal template in clarifying this phenomenon. In sum, this thesis provides an overview of the semantic, syntactic, and morphological properties of Arabic verbs undergoing the causative alternation. Besides employing the researcher's native-speaker intuition, the English/Arabic Lexicon Dictionary and Arabic corpora are consulted to support the validity of the argument.

Key Words: Causative alternation, Intransitives, Causatives, Unaccusatives, Unergatives

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CHAPTER 1

INTRODUCTION

This thesis presents a contrastive analysis of causative/anti-causative pairs in English and Arabic. Thus, this paper discusses the causative alternation between lexical causative verbs and their anti-causative counterparts. In English, the causative and anti-causative verb pair is characterized as a single pair, which is used causatively or intransitively; however, in Arabic, the verb pair is morphologically related, which respectively describe a causative and intransitive situation. Examples of Arabic and English causative/ intransitive pairs are depicted in (1):

(1) CAUSATIVE		INTRANSITIVE	
English	Arabic	English	Arabic
Break	Kasara	break	?inkasara
Melt	?ðaba	Melt	ðaba
Ø	?dhaka	laugh	dahika

It has been known in the literature that the causative alternation is characterized by verbs that have an intransitive as well as a transitive use, where the intransitive use typically denotes a change-of-state event undergone by some entity and the transitive use denotes that this change-of-state event has been brought about or caused by some different entity. The transitive use is therefore often paraphrased as “cause to V-intransitive.” An example of the alternation is given in (2). Across languages, anti-causative verbs constitute a sub-class of so-called unaccusative verbs. Therefore, the causative alternation has also been considered prominently in the study of unaccusativity, an example of the alternation is shown in (2):

(2) a. John opened the door. (Causative variant)

b. The door opened. (Anti-causative variant)

As mentioned above, anti-causatives (i.e., the intransitive alternates of the causative alternation) denote an inchoative change-of-state event, as in the English example in (2). However, in Arabic, verbs that express an activity (i.e., run, dance, laugh) can also have a lexical causative alternate, as in (3):

(3) a. rakada Ali

run.past Ali

“Ali ran”

b. ?-rakada l-mudarib-u l-walad-a

run the-trainer Ali

“The trainer made Ali run”

Therefore, the causative alternation phenomenon in Arabic has a unique distinction from English and some other languages; that is, it is not limited only to the participation of unaccusative verbs. Hence, the anti-causative variants are not only limited to inchoative verbs but also Arabic active verbs, which are known as unergative verbs in English, play a crucial part in this phenomenon. Therefore, the existence of an English counterpart for an Arabic causative/active verb is impossible. This explains the absence of a causative alternant of the English unergative verb *laugh* in (1), which was replaced with \emptyset sign.

The causative alternation phenomenon in Arabic has received little attention in the literature of the argument structure; in addition to that, the participation of unergative

verbs in the causative alternation was ignored. Therefore, this thesis highlights the role of this subset of intransitives/anti-causatives in the Arabic causative alternation and answers one of the highly considered questions about the causative alternation, that is, which version of the alternation is the lexical base, and which one is derived? This question has been answered in this thesis by assuming a causativization rule that indicates the source of derivation. This rule is characterized by the verbs' ability to be causativized, and the only condition that allows a causative verb to be re-causativized is to be a basic form. Hence, a verb's inability to be re-causativized would result from being a derived form. Following this rule, it reveals that Arabic intransitive verbs are always basic forms and their causative alternants are the derived ones.

Likewise, this thesis reveals that Arabic change-of-state and active intransitive verbs are syntactically alike although with different thematic roles. Arabic intransitive verbs in both groups correspond syntactically to a direct object of a causative alternant. This observation supports the participation ability of active verbs in the causative alternation. As a result of this observation, it is assumed in this thesis that there is no split between Arabic intransitive verbs syntactically and they both participate in the causative alternation. Further, it has been known that English unaccusative verbs contain two subclasses, and while the alternating unaccusatives subclass participates in the causative alternation, the non-alternating unaccusatives do not. However, Arabic change-of-state verbs, which correspond to English unaccusative verbs, do not depict a similar manifestation. Therefore, it is argued in this thesis that Arabic change-of-state verbs are not divided into alternating and non-alternating verbs. On the contrary, all Arabic change-

of-state verbs have a causative alternant, excluding the ones that lack the intransitive counterpart Form I and which, in turn, have a noun's root instead.

The participation of active verbs in the causative alternation resulted in the presence of a Causer and an Agent in the causative use. This indicates that the event is brought about through the involvement of both a Causer and an Agent. Postulating an account for this manifestation, several syntactic frameworks were adopted, such as distributed morphology (e.g., Halle and Marantz 1993; Marantz 1997), and minimalist program (e.g., Harley 1995). Further, while in English both versions of the alternation are morphologically identical, Arabic uses specific morphological devices to differentiate between the two alternates in most cases. This thesis emphasizes the role of those morphological devices (verbal template) by assuming that they play an essential role in determining the argument structure of the verb.

Finally, There are seven chapters in this thesis. In Chapter 2, the most common verbal patterns used in MSA are listed and it is shown that verbal patterns may be associated with semantic or syntactic function. In Chapter 3, the literature review of theories of argument structure is discussed, and the syntactic and the semantic properties of the argument structure are provided. In Chapter 4, a summary of the evolution on the unaccusative phenomena is illustrated and the intransitivity split in English and Arabic is examine by focusing on known diagnostic tests to distinguish between the two types. In Chapter 5, light is shed on the causative alternation in English and Arabic by providing an overview of the lexical causative verbs and their anti-causative counterparts and highlighting the distinctions between the two languages. Chapter 6, provides a syntactic

analysis for Arabic intransitive verbs in relation to their morphological form (verbal template) and motivates a distinction between the heads Voice and v.

CHAPTER 2

ARABIC ROOT-PATTERN SYSTEM

Modern Standard Arabic (MSA) is characterized by a system of triliteral consonant roots (radical). The consonantal roots combine with derivational affixes and vocalisms to form a derived stem. Affixes and the vowels correspond to “pattern.” Ryding (2005:44) stated that the Arabic root-pattern process conveys specific types of meaning, but neither one can exist independently because they are abstract mental representations. Therefore, a root and a pattern combine to form a word that carries a certain meaning. Patterns that consist of derivational affixes mark grammatical functions. Ryding (2005) stated that:

Patterns possess grammatical meaning rather than lexical because they signify grammatical or language-internal informational; that is, they distinguish word classes, such as nouns, verbs, and adjectives. They can signal very specific information about subclasses of nouns, verbs, or adjectives. They can be identified as active participle, noun of place, noun of instrument, or verbal noun. (p. 48).

Root-pattern processes construct the morphological system in Arabic. In such a morphological system, each root can be transformed into one of the 15 verb forms (only 10 forms are common in MSA). Each form has a basic meaning linked with the meaning of the root being used, as illustrated in Table 2.1.

In Arabic, verbs and other words that express related semantic concepts are formed through a system known as derivation. That is, words are derived from a stem or

template that is described by a sequence of letters known as radicals. These are often referred to as trilateral or quadrilateral radicals for 3 or 4 root letters, respectively.

Arabic shares this linguistic feature with other Semitic languages such as Hebrew, which has seven different verb forms. The basic rule of derivation in Arabic is that nearly all words are derived from a three root (trilateral) or a four root (quadrilateral) pattern system. The Arabic letters *fā 'ayn lām* (فعل) are typically used as placeholders in verb patterns to denote three different radical letters, since فَعَلَ is a prototypical verb that means “to do.” Roots in Arabic convey a basic meaning, which then allows for more complex semantic concepts to be derived, whether these are verbs or nouns. Based on this system nouns and verbs can have up to 14 to 5 forms; however, 10 is the norm for most roots.

Haak (1997:85) stated that Arabic verbal patterns are named after their morphological characteristics, and most of those patterns have several meanings. He also added that the semantics of Arabic verbal patterns are restricted to a certain set of roots. This restriction may cause a verbal pattern to be not very common.

The three-root concept of K-T-B, for example, gives the basic meaning of “to write”. By adding letters to the three-root template (whether before, in between, or after the radicals in the stem) other more complex meanings are formed, as illustrated in Table 2.1.

Table 2.1 Derived Forms from the Root √ktb

Root	Meaning	Template
kataba	he wrote	CaCaCa
kattaba	he made someone write	CaCCaCa
nkataba	he subscribed	nCaCaCa
ktataba	he copied	CtaCaCa
kitaab	book	CiCaaC
kuttaab	Koranic school	CuCCaaC
kitaabii	written, in writing	CiCaaCii
kutayyib	booklet	CuCayyiC
maktaba	library, bookstore	maCCaCa
mukaatib	correspondent, reporter	muCaaCiC

Adopted from Tucker (2010:2)

Table 2.1 shows that, in Arabic, the verb's pattern determines its class, and a single root can generate multiple alternations of the verb as necessary. Each of these alternations determines the structure of the sentences in which they are used.

2.1 Triliteral Verb Forms

2.1.1 Form I فعل 'F-a-ʿ-a-L-a', 'F-a-ʿ-i-L-a', 'F-a-ʿ-u-L-a'

This form is the simplest form in Arabic and it expresses the general meaning of the root, as shown in Table 2.2. Verbs of this form are generally transitive so they require an object; however, it is possible to have intransitive verbs that require no object in this class as well.

Table 2.2: Arabic Form I Verb

Root خ ج ر (x-r-j) - leaving, departing	Form I verb خَرَجَ (xaraja) - to leave, go out
ع ج م (j-m-ʿ) - joining, uniting	عَجَمَ (jamaʿa) - to gather, collect
ل م ع (ʿ-m-l) - doing, making	عَمِلَ (ʿamala) - to work, to do, to

2.1.2 Form II فعل ‘F-a-ʿʿ-a-L-a

This Form is built on form I by doubling the second radical letter of the form I verb (adding a shadda/gemination to it). It is a causative version of transitive Form I and of intransitive Form I. However, if it is a causative of transitive Form I, a doubly¹ transitive will be derived. Based on Danks (2011), it was unanimously agreed (e.g., Wright 1967; Cowan 1958; Wickens 1980; Holes 2004; Badawi 2004; Ryding 2005) that this form sometimes is nominal, that is, derived from nouns. This form reflects meaning in different ways. First, it adds intensity to transitive form I (repetition or the energy in which the action is performed), second, as a causative (to make another do,) as shown in Table 2.3.

Table 2.3: Arabic Form II verb

Form II causative version derived from intransitive

خَرَجَ (xarraja) means ‘to make someone go out’

سَمَّنَ (samman) means ‘to make (a person or animal) fat’

¹ Doubly means: transitive verb with double objects.

Form II intensive version derived from Form I

جَمَعَ (jammaʿa) means ‘to amass, to accumulate’

قَطَعَ (qattaʿa) means ‘to cut something into pieces’

كَسَّرَ (kassara) means ‘to break something into pieces’

قَتَلَ (kattala) means ‘to kill many’

2.1.3 Form III فَاعَلَ ‘F-aa-ʿ-a-L-a’

This form is built on form I by adding an “alif” between the first and second radicals. Its meaning reflects that someone doing the act in question to or with someone else. Examples for this form are illustrated in Table 2.4.

Table 2.4: Arabic Form III Verb

Form I سَلِمَ (salam) to be safe	Form III verb سَالَمَ (saalama) to make peace with someone
عَلِنَ (ʿalana) to become known	عَالَنَ (ʿaalana) to disclose something to someone
عَمَلَ (ʿamala) - to work, to do, to	عَامَلَ (ʿaamala) to deal with someone

2.1.4 Form IV أَفْعَلَ ‘a-F-ʿ-a-L-a’

This Form is built on Form I by prefixing an “alif” to a form I verb and putting a sukuun over the first radical. It is similar to form II in that it is usually a causative version of the form 1 verb. This pattern is also similar to form II in that it transforms intransitive verbs to causative by adding one argument, which results in a divalent verb, and transforms transitive verbs to doubly by adding two arguments to the verb that result in a trivalent verb (cf. Haak 1997), as illustrated in Table 2.5.

Table 2.5 Arabic Form IV Verb

Form I	Form IV verb
ركض (rakada) to run	أركض (ʔrkada) to make someone run
رقص (raqasa) to dance	أرقص (ʔrqasa) to make someone dance
ضحك (dahika) to laugh	أضحك (ʔdhaka) to make someone to laugh
كتب (kataba) to write	أكتب (ʔktaba) to make someone write something

2.1.5 Form V تَفَعَّلَ ‘t-a-F-ʕʕ-a-L-a’

The form is made by adding “-ta” on the front of form II. It is often the reflexive of II (i.e., the subject and the direct object are the same). In other words, it has the meaning of performing an action on yourself, as depicted in Table 2.6.

Table 2.6: Arabic Form V Verb

Form I	Form V
دحرج (dhraja) to roll	تدحرجت (tadahraja) to roll down
نقض (naqada) to destroy	تنقض (tanaqada) To be destroyed
سرب (saraba) to leak	تسرب (tasarab) to be leaked

2.1.6 Form VI تَفَاعَلَ ‘t-a-F-aa-ʕ-a-L-a’

This Form is built on Form III by adding the prefix ta- to the Form III verb, usually a reflexive version of the form III verb, as shown in Table 2.7.

Table 2.7 Arabic Form VI Verb

Form I	Form VI
to be fast سرع (sara3a)	to rush or to hurry تسارع (tasara3a)
To work عمل (ʕamala)	to do business with تعامل (taʕamala)

2.1.7 Form VII اِنْفَعَلَ ‘i-n-F-a-ʕ-a-L-a’

Form VII is built on Form I by adding the prefix “2in-” to the form I verb.

Wightwick and Gaafar (1998) clarified that this form is an intransitive form and a passive version of Form I in colloquial Arabic, as shown in Table 2.8.

Table 2.8: Arabic Form VII Verb

Form I	Form VII
عقد (ʕakada) To tie	ان عقد (?inʕakada) to be knit together
كسر (kasara) to break	نكسرا (?inkasara) to become broken
كتب (kataba) to write	ان كتب (?inkataba) to be written

2.1.8 Form VIII اِنْفَعَلَ ‘i-F-t-a-ʕ-a-L-a’

This form is built on form 1 by adding the prefix “alif” to the form I verb and “sukuun” must be placed over its first radical. The eighth form is reflexive for nuances and can convey doing something with detail or intentionally, as depicted in Table 2.9.

Table 2.9 Arabic Form VIII Verb

Form I	Form VIII
سمع (samaʿa) to hear	استمع (istamaʿa) to listen
عرف (ʿarifa) to know	اعترف (iʿtarafa) To acknowledge

2.1.9 Form IX اِفْعَلَّ ‘i-F-ʿ-a-LL-a’

This form usually reflects the meaning of stativity and typically refers to bodily defects and colors. When this form refers to colors, it is normally de-adjectival intransitive, as shown in Table 2.10.

Table 2.10: Arabic Form IX Verb

Form IX
احمر (ihmara) to turn red
اخضر (ikh dara) to turn green
اصفر (isfara) to turn yellow
اعوج (iʿwaja) to be twisted

2.1.10 Form X اِسْتَفْعَلَ ‘i-s-t-a-F-ʿ-a-L-a’

The tenth form usually reflects the meaning of someone seeking something, as shown in Table 2.11.

Table 2.11: Arabic Form X Verb

Form I	Form X
سلم (salama) To be safe	استسلم (istaslama) to surrender
زاد (zada) To increase	استزاد (istazada) to achieve more

Table 2.12 displays the entire verb forms, including their perfect and imperfect conjugations, active and passive participles, and verbal nouns

Table 2.12: Verb Forms

Verbal noun	Passive participle	Active participle	Imperfective	Perfective
؟	Mafʿul	Faʿel	Yufʿalu	Faʿala
Tafʿeel	Mufaʿʿal	Mufʿʿel	Yufaʿʿalu	Faʿʿala
Mufaʿala or Faʿel	Mufaʿal	Mufaʿel	Yufaʿelu	Faʿala
Ifʿal	Mufʿal	Mufʿel	Yufʿalu	Afʿala
Tafaʿul	Mutafaʿʿal	Mutafaʿʿal	Yatafaʿʿalu	Tafaʿʿala
Tafaʿul	Mutafaʿal	Mutafaʿel	Yatafaʿalu	Tafaʿala
Infʿal	Munfaʿal	Munfaʿel	Yanfaʿelu	Infʿala
Iftiʿal	Muftaʿal	Muftaʿel	Yaftaʿelu	Iftaʿala
Ifʿilal	-	Mufʿʿel	Yafʿallu	Ifʿʿala
Istifʿal	Mustafʿil	Mustafʿel	Yastafʿilu	Istafʿala

In sum, in English, words are the input for all syntactic and morphological processes. In contrast, in Arabic, the morphology approach is traditionally based on the existence of roots as the building blocks of the lexicon. Applying various patterns and phonological process to the root forms words in Arabic. Moreover, Ammar (2007:3) stated that the application of the same pattern to two different roots results in verbs that have similar semantic, phonological, and syntactic properties. Finally, investigating the verb system in Arabic is crucial for understanding argument structure; however, the aim

in Chapter 3 is to clarify what the argument structure is. In Chapter 3, the argument structure and the most common approaches, which have been concerned with explaining the argument structure phenomenon, will be reviewed.

CHAPTER 3

ARGUMENT STRUCTURE: SYNTAX-LEXICAL SEMANTICS INTERFACE

The current research posited the existence of a close correlation between the semantics of verbs and syntactic behaviors like argument structure and alternation. The hypothesis that the syntactic properties of verbs are determined by their meaning has intrigued researchers in linguistics. Consequently, many theories of grammar assume that the syntactic realization of verbs is, to a large extent, predictable from their meaning. However, one of the difficulties that confronted this assumption is that the majority of verbs appear in a bewildering range of syntactic contexts (Levin and Rappaport Hovav 1995:279).

Levin and Rappaport Hovav (2005) illustrated that, generally, syntacticians formulate generalizations concerning the argument realization without adequately delving into the lexical semantics notions and neglecting concerns related to the question “how will syntactic structures eventually get interpreted?” On the other hand, lexical semanticists are not sufficiently versed in the syntactic issues impinging on the choice of representation. Thus, those separable approaches led to a debatable issue, which is the determination of the extent of the relationship between the lexical and syntactic structure of a lexical entry (Levin, 1993). Likewise, such variation led to controversies over the nature of the argument structure. Some researchers refer to the argument structure as the lexical representation of grammatical information about the predicate, whereas the view of others is that all properties of argument structure are taken up by syntactic structure. The aim of this chapter is to lay out the major approaches in the linguistic theory that

have been substantial in clarifying the picture of the a-structure concerning lexical semantics and syntax relation.

3.1 What is a Valency?

The valency of a chemical element refers to its capacity for combining with a fixed number of atoms of other elements. Sodium, for instance, is monovalent, because a sodium atom must be linked to another atom (hydrogen) within the structure of a stable compound. Oxygen, on the other hand, is divalent and therefore needs two hydrogen atoms to fulfill its valency requirement. Verbs' valency behaves in a parallel manner to the valency of the chemical elements. A divalent verb (i.e., transitive verb like *damage*) requires two arguments to fulfill its valency requirements. Hence, the verb valency determines the basic structure of that sentence. The English verbs below, for instance, as those of sentences (1) to (3) are acceptable, yet they are unacceptable as shown in sentences (4) to (9):

- (1) Oliver stumbled.
- (2) Oliver damaged the key.
- (3) Oliver thrust the key into the lock.
- (4) *Oliver damaged.
- (5) *Oliver thrust.
- (6) *Oliver stumbled the key.
- (7) *Oliver thrust the key.
- (8) *Oliver stumbled the key into the lock.
- (9) *Oliver damaged the key into the lock. (Allerton, 1982)

These examples serve to show that verbs can occur in a range of different sentence structures, in which their valency describes their different potentials involving the number and type of arguments they can have. Therefore, intransitive verbs (e.g., *stumble*) have one argument and transitive verbs (e.g., *damage*) have two arguments, in which both cannot violate their valency requirements or it will produce a syntactically ill-formed sentence as in (4) to (9).

3.2 The Semantic and Syntactic Side of Argument Structure

In syntax, an argument is defined as “a noun phrase bearing a specific grammatical or semantic relation to a verb and whose overt or implied presence is required for well-formedness in structures containing that verb” (Track 1993:23). Hence, arguments are identified in two ways: in terms of syntactic and semantic roles. While the syntactic roles or functions in relation to the verb are descriptions of the syntactic positions of an argument, the semantic roles are the descriptions of the semantic relation between a predicate and its argument(s).

Some of the semantic roles are:

Agent: initiator of an event; **Patient:** entity affected/ changed by the event:

(10) John^{AGENT} broke the wall^{PATIENT}

Recipient: a person receiving something

(11) Sam gave his mother^{RECEPIENT} a gift

Experiencer: an entity which experiences an emotion or other psychological state

(12) Sofia^{EXPERIENCER} likes music.

Instrument: the means by which an action is performed

(13) I cleaned the table with a rag^{INSTRUMENT}

Goal/source: start/endpoint of a motion event

(14) She went from Paris^{SOURCE} to London^{GOAL}

Location: place where an entity/event is/occurs

(15) She worked in the office^{LOCATION}

Some syntax functions are:

Subject: NP that appears outside the VP and determines verbal inflections (**external argument**) as in (16):

(16) Mona has [VP eaten the sandwich]

Object: NP argument of verb appearing inside VP (**complement**).

(17) Suzy [VP watched [NP the movie^{DIRECT OBJECT}]]

(18) Sam [VP gave [NP Alice]^{INDIRECT OBJECT} [a beer]^{DIRECT OBJECT}]

Oblique: an argument of V realized in the PP inside the VP

(19) The book [VP belongs [PP to me]]

3.2.1 Syntactic Vs. Semantic Argument

Semantic roles and syntactic functions do not correlate one-to-one, thus, there is no parallelism mapping between thematic roles and syntactic positions as shown in

(20)(a, b) and (21)(a,b):

<u>Subject</u>		<u>Indirect object</u>		<u>Direct object</u>
(20) a. [AGENT Sam]	broke			[PATIENT the vase]
b. [PATIENT the vase]	broke			
(21) a. [AGENT Salma]	sent	[RECEPIENT Ali]		[Theme a letter]

b. [RECEPIENT Ali] was sent [Theme a letter]

In addition, syntactic functions will vary as the form of the predicate varies (e.g., active verb, passive participle, gerund, nominal, etc.). The semantic arguments of the predicate, in contrast, remain consistent as we see in the following examples:

(22) Jill likes Jack.

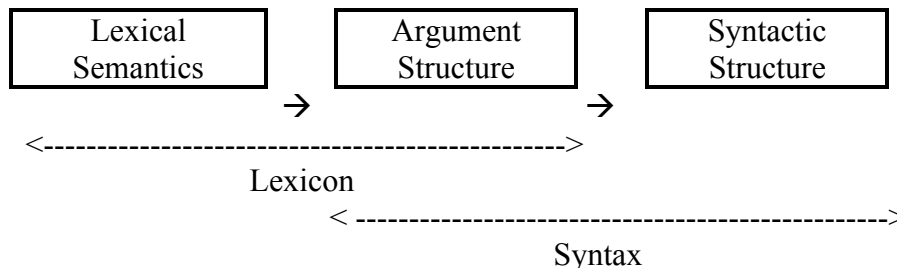
(23) Jack is liked by Jill.

(24) Jack is being liked by Jill.

(25) The liking of Jack by Jill.

The predicate “like” appears in various forms in these examples, which means the syntactic functions of the arguments associated with Jack and Jill will vary. The object of the active sentence, for instance, becomes the subject of the passive sentence. Albeit there is this variation in syntactic functions, the arguments remain semantically consistent. In each case, Jill is the experiencer (the one doing the liking) and Jack is the one being experienced (the one being liked). In other words, the syntactic arguments are subject to syntactic variation in terms of syntactic functions, whereas semantic roles of the arguments of the given predicate remain consistent as the form of that predicate changes.

Alexiadou, Anagnostopoulou, and Everaert (2004:11) explained there is no direct relation between syntax and lexical semantics of predicates, but only between syntax and argument structure; as shown in (26):



3.2.2 What is a Verb A-Structure?

Levin (2013) clarified that an a-structure is the specification of the number and types of arguments required for a verb in that structure to be well formed. For instance, an intransitive structure requires one subject argument, (e.g., Alice smiled) while a transitive structure requires both subject and object arguments (e.g., John built the house). As in the previous examples, presumably, we assume that the subject is an Agent and the object is a patient; however, the subjects in (e.g., The vase broke) and (Sam liked the music) are not Agents since they do not perform the action (the vase is Patient, Sam is Experiencer). Furthermore, there are many other complex argument structures², which occur such as the passive (e.g., The vase was broken by Ali), the causative (e.g., Ali broke the vase). Thus, all verbs must have at least one a-structure in which the lexical entry for each verb specifies the a-structure a verb assigns in the form of subcategorization (Baker 1979). Yet, most verbs may appear in two or more structures as indicated in examples (1) to (9). Therefore, other researchers have argued that there is no need for the subcategorization frames because the syntactic behavior of the verb can be predicted from its meaning (Levin 1993; Pinker 1989). Hale and Keyser (1987) considered the English verb *gally* (*a term used in the sailors gallied the whales*) as an example to emphasize that idea. They assumed that, while some speakers of English who are not familiar with this verb may assume that it means “see” (*The sailors saw the whales*), others might take it as “frighten” (*The sailors frighten the whales*). Despite the difference of these assumptions, speakers are able to predict the verb (*gally*)’s syntactic behavior. To illustrate this point, Hale and Keyser looked at middle transitivity

² See Levin 1993 for a review of over eighty a-structures used in English.

alternation. Thus, the speakers who believe that *gally* means “see” would not find the middle construction (*Whales gally easily*) acceptable, while the speakers who take it as “frighten” would allow the middle construction (*whales frighten easily*). Thus, the speakers’ different interpretations of *gally* might be explained by their different assumptions concerning its meaning. The *gally* example indicates that, if one can appropriately identify the relevant meaning of a given verb, one can determine the argument structure of the verb. Still other researchers have argued that not the verb meanings but rather the construction meanings are the essential starting point in understanding the a-structure (e.g., Fillmore 1988; Goldberg 1995). For instance, Allen (1996) clarified that it is clear from the sentence structure alone that *John mooped the ball to Mary* describes an event of transfer and that *John mooped the ball onto the table* describes an event of caused motion; thus, knowing the meaning of the verb is unnecessary to understanding much of the meaning of the sentence. Section 3.3 amplifies the above distinctive approaches toward the nature of an a-structure.

3.3 Early Development of Argument Structure

The notion of argument structure, which was first adopted by researchers working in the Government Binding framework (GB) around 1980, is a descendant of the subcategorization frame of 1960s transformational grammar which acknowledges that a lexical item’s argument-taking properties may be driven from its meaning. Much of this work assumes that verbs are associated with predicate-argument structures, often called theta-grids (Stowell 1981). Therefore, the first stage of the interface between semantics and syntax was conceived as a series of regularities in the mapping from thematic roles to

grammatical functions. A good example of this idea is Chomsky's (1981) Projection Principle, which ensures the direct relation between the syntactic structure of a sentence and the lexical properties of the verbal entry. Therefore, the theory of GB has emphasized the role of the lexicon in accounting for the construction of phrases and sentences, maintaining the idea that major aspects of the syntax of sentences are directly projected from the lexical properties of verbs. In order to implement the theory of the Projection Principle, verbs must have, inherently, structures lexical representation, which may take the form of an argument structure or may take a lexical semantic representation of the same type (Levin and Rapoport Hovav 1995:278). The basic assumption of the theory is that there is no internal interface between the lexicon and the syntax (cf. Tyler 1999:40). Furthermore, proposals like *Universal Alignment Hypothesis* (UAH) (Perlmutter & Postal 1984) and *Uniformity of Theta Assignment Hypothesis* (UTAH) (Baker, 1988) speculated that thematic roles map consistently onto certain syntactic positions at D-structure. Under this approach, thematic roles are arranged in a prominence hierarchy, and the realization of syntactic arguments is based on the position of roles in this hierarchy. The highest role in the thematic hierarchy is assigned the highest argument in the syntactic structure (the subject), the next highest role is assigned the next highest argument, and so forth. Thematic hierarchies are considered to be an independent and irreducible module of grammar. However, those hypotheses are general and do not take a position as to the nature of mapping itself. Therefore, other researchers have developed other types of mapping that is based on a relative thematic hierarchy.

3.4 Theories of Argument Structure

There is a vast amount of literature regarding argument structure theories. However, the discussion around issues of argument structure, argument projection, and argument changing operations in the generative literature has focused around two extreme positions on the role of lexical entries. The two extreme approaches, *Lexicalist* and *Constructionist*, emerged to explain the argument structure and the syntax-semantics interface phenomena. However, researchers within the same approach differ in their justifications for how lexical semantic representations or the syntactic structure of predicates should look. Particularly, lexicalist approaches assume morphosyntactic processes that affect a predicate's argument-taking potential operating over an argument structure, while other approaches take such processes to operate on syntactic configurations, and still others propose that both the syntax and the lexicon can be domains for such processes. Finally, certain researchers now suggest that the empirical domain subsumed under the label "argument structure" derives from other facets of the syntactic context in which lexical items are found, and some of them even question whether lexical items have an argument structure. Levin & Rappaport Hovav (2005) explained that, despite the controversies within the lexicalist approach, "the argument structure is now adopted as a pre-theoretical cover term to refer to those linguistic phenomena that involve the realization of a lexical item's arguments, including morphosyntactic phenomena that affect the morphosyntactic realization of arguments" (p. 5). Furthermore, Reinhart summed up the lexicalist approach in the following quote:

Linguistic practice is guided by the principle of Lexicon Uniformity, which states that each verb-concept corresponds to one lexical entry with one thematic structure, and entails that the various thematic forms of a given verb are derived by lexicon-operations from one thematic structure. (Reinhart 2002: 284)

In contrast, since the 1990s, the constructional theories of argument structure has emerged as the direct opposite of the lexicalist view, arguing in favor of not encoding all aspects of argument structure lexically and that the structure is not derived by any of the properties of the lexical entry. (cf. Ramchand 2008; Adger 2013; van Gelderen 2013). However, more recently, Ramchand (2008) argued that syntax is crucial in determining many aspects of argument structure. Therefore, his approach does not deny the role of the lexicon. Goldberg (1995) proposed that grammatical constructions play a central role in the relation between form and meaning; that is, the syntactic patterns are imbued with meaning. She explained that grammatical constructions have meaning just like words in idioms do. Thus, constructions are lexical items with empty slots into which words/phrases can be inserted.

3.4.1 Projectionist and Thematic Hierarchy

The projectionist approach explains the representation of argument structure via theta-roles. Theta roles were considered to carry the relevant semantic information of the verb for syntax. However, a close exploration of the nature of the thematic roles for different types of verbs has shown that thematic roles are insufficient to explain the interface phenomena. For instance, Pesetsky (1995) explained that the syntactic behavior

of the so-called *psych-verbs* require some fine tuning of the thematic labels assigned to their arguments.

Grimshaw (1990) posited that the argument structures are based on thematic hierarchy, which means that the a-structure denotes prominence relations determined by thematic information of the verb. Therefore, the thematic hierarchy proposed by Grimshaw indicates that the theta role assignment takes place from the least to the most prominent argument; it follows that the external argument will be the last to be theta marked. Further, Grimshaw stated that “thematic roles do not project into the grammatical representation, but they are just tools to describe lexico-semantic problems. Internal organization of argument structure is not stipulated for each predicate yet is projected from lexical semantic representation.

Dowty’s (1991) proto-role approach is an alternative to thematic hierarchies. He argued that Agent and Patient are the only two semantic roles relevant for argument realization. Furthermore, these two roles are merely prototypes for a conceptual space of properties, hence, proto-agent and proto-patient. The thematic role of an argument can be reduced to lexical entailments imposed on it by the verb, but no single property is either necessary or sufficient. The main proto-agent and proto-patient entailments given by Dowty (1991:572) are listed below:

(27) Proto-Agent entailments:

- a. Volitional involvement in the event or state
- b. Sentience and/or perception
- c. Causing an event or change of state in another participant

- d. Movement (relative to the position of another participant)
- e. Referent exists independent of action of verb

(28) Proto-Patient entailments:

- a. Undergoes change of state
- b. Incremental theme
- c. Causally affected by another participant
- d. Stationary relative to movement of another participant
- e. Does not exist independent of the event named by the verb

As a result of developing various lexical semantics-to-syntax mapping, different thematic hierarchies exist in the literature:

- a. Actor> patient> beneficiary>them>location/source/goal (Jackendoff 1990)
- b. Agent> experiencer> goal>/source/location>theme (Grimshaw 1990)
- c. Agent>Theme>Goal/Source/Location (Baker 1997)
- d. Agent>theme>goal>oblique = manner, location, time (Larson 1988)

(Adopted from Levin & Rappaport 2005:16)

Whereas there is no consensus among researchers on how many thematic roles there are and which are relevant for argument structure, the only agreement among them is all of the hierarchies in the literature have Agent highest on the hierarchy. However, none of the proposals explain why the hierarchy should exist or why it is the way it is. For instance, Grimshaw (1990) assumed that the thematic hierarchy follows from depth of embeddedness in semantic representation whereas Larson (1988) assumed that the hierarchy reflects the order in which arguments combine semantically with a verb.

Moreover, as for projectionists, lexicon is not just a storage space or unpredictable sound-meaning correspondences, but is active in the sense that there are lexical operations/rules, which can change the meaning, form and/or argument structure of an expression. Thus, a verb's lexically specified argument structure is projected as syntactic structure. Below is an illustration of how lexical operations can add³ or suppress⁴ an argument:

(29) Lexical rules can add arguments/ beneficiary alternation:

- a. Sam made a dinner b. Sam made **his wife** a dinner.

The example above exemplifies how the (b) variant is derived from the (a) variant using lexical operation by adding a beneficiary. Therefore, lexicalists formulate the following lexical beneficiary argument by adding:

Lexical operation adding a beneficiary

- a. **Input:** A verb with two NP arguments, one of which is a created object.
b. **Output:** A verb with three NP arguments, the added argument being a person who benefits from the action named by the verb.

Basic lexical entry for *make*

- a. Semantics: "X cause Y to come to existence"
b. Argument structure: [NP X] [NP Y]

Derived lexical entry for *make*

- a. Semantics: "X cause Y to come to existence for the benefit of Z"
b. Argument structure: [NP X] [NP Y] [NP Z]

³ Adding an argument by using lexical rules can be also seen in **Causitivation, adding location NP, adding PPs.**

⁴ Suppressing an argument by using lexical rules can be also seen in **Object drop, Passive, Middle.**

(30) Lexical rules can suppress arguments/ reflexive object alternation:

- a. The barber shaved someone b. The barber shaved.

Lexical operation creating a verb with implied reflexive objects

- a. **Input:** A verb with two NP arguments denoting an action which an agent commonly performs on itself.
- b. **Output:** A verb with one NP argument, interpreted.

Basic lexical entry for *shave*

- a. Semantics: X removes hair from X using a razor or shaver
- b. Argument structure: [NP X]

Adopted from (McIntyre 2005)

3.4.2 Constructional Theories

In contrast, constructional theories took a different route in answering the question in example (1); this approach assumes that alternations exist because a verb can be inserted in more than one construction. For instance, the causative alternation exists because certain verbs can be inserted either in the transitive or intransitive constructions. Therefore, constructionists assume what other linguists call argument of the verb, which are arguments of the construction in which the verb appears. Hence, in this theory, the verb has no arguments and thus no information about argument structure in its lexical entry. Furthermore, this theory concludes grammatical constructions are no different from normal phrasal idioms, except that the latter predetermines some of the morphemes in them, as shown in (31):

(31) Fred couldn't {think/teach/play/research...} his way out of a paper bag.

Lexical entry for the ‘paper bag’ construction:

- a. Form: [S [NP_I] I [AUX couldn't] [VP [V] [NP POSSi way]] [PP out of a paper bag]]]
- b. Meaning: X cannot V very well.

Adopted from (Goldberg 1995: 175)

Constructional theory explains that constructions determine which argument appears as subject and which as object; therefore, devices like thematic hierarchies are not needed. In conclusion, the semantics-based approach assumes that semantic features are primitive and the syntax depends on a set of linking rules. While at the same time the approach based on syntax claims that syntactic configuration are the primitives from which meaning can be deduced. There is no reason to believe that both approaches have their limitations. For example, a semantics-based approach fails to capture regularities and parametric differences in the lexicon-syntax mapping that crucially depend on the syntactic structure. On the other hand, the syntax-based approach has little to say on the issues such as alternating and non-alternating unaccusatives.

Recent work resulting from these approaches to argument structure has organized understanding of argument structure around the grammatical architectures of the Minimalist Program (MP) in syntax (Chomsky, 1995). This theory has conceived the syntax and semantic interface in a new light. Basically, the functional categories have features that determine the syntactic operations that are responsible for the position arguments occupy. The mechanism by which arguments occupy structural position is feature checking. Therefore, “a functional category with features must find a lexical item in the sentence that have those same features” (Sanz, 2000:6). Thus, instead of viewing

the syntax/semantics interface as mapping between theta roles and grammatical functions, the mechanisms proposed by the minimalism conceptualize it as the relationship between aspectual properties of verbs and nouns and the feature of functional categories, which eventually translates into structural positions.

Chapter 4 aims to present the unaccusatives alternating phenomena that have been the core of discussion about the syntax/semantics interface.

CHAPTER 4

AN INTERFACE PUZZLE: UNACCUSATIVITY

It has been noted in the literature that unaccusativity has been at the core of the discussion about the syntax/semantics interface since Perlmutter (1978). Unaccusative verbs display one problem. They are monadic verbs whose sole argument bears the Theme role, but appear in the position of subject; however, this position is normally occupied by other types of theta roles, such as Agent. Hence, the existence of unaccusatives in language is puzzling. The following sections will introduce a summary of the evolution on the unaccusative phenomena whereby examining the English split intransitivity, focusing on diagnostics, which reflect the differing underlying argument structures of unaccusativity and unergativity, and compare it with Arabic.

4.1 The Unaccusative Hypothesis

In grammar, prototypical transitive verbs involve a Causer (Agent) and any entity undergoing a change will be Theme/undergoer, thus, the former is realized as a subject and the latter is realized as an object, as in *Sally painted the wall*. Syntactically, an intransitive verb is a verb that has no direct object, and, semantically, its subject could involve an Agent or a Theme such as:

- (1) a. John walked.
- b. John stumbled.

Furthermore, intransitive verbs do not constitute a homogenous class, but consist of two classes. The *Unaccusative Hypothesis* formulated by Perlmutter (1978) proposed this evaluation and argued that intransitive verbs are divided into two classes: unergatives and

unaccusatives, and each class is associated with a different underlying syntactic configuration such as in (2):

- (2) a. NP [_{VP} V] *unergative* John sings
b. [_{VP} V NP] *unaccusative* John came

This hypothesis provided a rich context for debating whether syntactic behavior is semantically determined. Therefore, Perlmutter's proposal was based on the semantic features of the subject of each class of intransitives; hence, knowing the thematic roles of a certain verb allows us to predict the syntactic structure of the predicate. Moreover, Perlmutter and Postal (1984) categorized verb meanings that tend to belong to each class as follows (1984:98-99):

Table 4.1 Unergative Verbs

a. Predicates describing willed or volitional acts:

work, play, speak, talk, smile, grin, frown, grimace, think, meditate, cogitate, daydream, skate, ski, swim, hunt, bicycle, walk, skip (voluntary), jog, quarrel, fight, wrestle, box, agree, disagree, knock, bang, hammer, pray, weep, cry, kneel, bow, courtesy, genuflect, cheat, lie (tell a falsehood), study, whistle (voluntary), laugh, dance, crawl, etc.

- Manner-of-speaking verbs

whisper, shout, mumble, grumble, growl, bellow, blurt out, etc.

- Predicates describing sounds made by animals

bark, neigh, whinny, quack, roar (voluntary), chirp, oink, meow, etc.

b. Certain involuntary bodily process:

cough, sneeze, hiccup, belch, burp, vomit, defecate, urinate, sleep, cry, weep, etc.

a. Predicates expressed by adjectives in English

a very large class, including predicates describing sizes, shapes, weights, colors, smells, states of mind, etc.

b. Predicates whose initial unclear term is semantically a Patient

burn, fall, drop, sink, float, slide, slip, soar, flow, ooze, seep, trickle, drip, gush, hang, sway, wave, tremble, shake, languish, thrive, drown, stumble, roll, succumb, dry, blow away, boil, seethe, lie (involuntary), sit (involuntary).

Inchoative:

melt, freeze, evaporate, vaporize, solidify, crystallize, dim, brighten, redden, darken, yellow, rot, decompose, germinate, sprout, bud, wilt, wither, increase, decrease, reduce, grow, collapse, dissolve, disintegrate, die, perish, choke, suffocate, blush, open, close, break, shatter, crumble, crack, split, burst, explode, burn up, burn down, dry up, dry out, scatter, disperse, fill, vanish, disappear, etc.

c. Predicates of existing and happening

exist, happen, transpire, occur, take place, and various inchoatives such as arise, ensue, result, show up, end up, turn up, pop up, vanish, disappear, etc.

d. Involuntary emission of stimuli that impinge on the senses:

shine, spark, glitter, glisten, glow, jingle, clink, clang, snap (involuntary), crackle, pop, smell, stink, etc.

e. Aspectual predicates

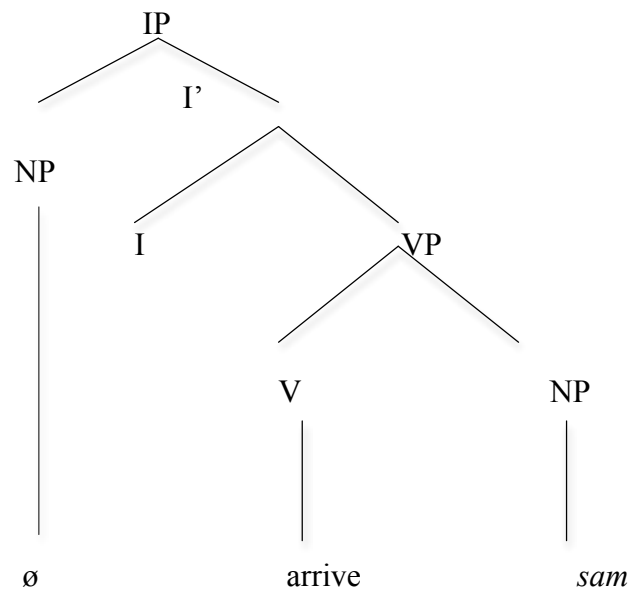
begin, start, stop, cease, continue, end, etc.

Levin and Rappaport Hovav (1995) explained that intransitive verbs are associated with distinct syntactic configuration, in which unaccusative verbs take surface subjects that correspond to a D-structure (deep) object, and unergative verbs' surface subject corresponds to D-structure subject with no object. Alternatively, in argument structure terms, an unaccusative verb has a direct internal argument but no external, whereas an unergative verb has an external argument but no direct internal argument. As for the thematic roles, unergative verbs have Agent argument as opposed to Patient/Theme argument for unaccusatives.

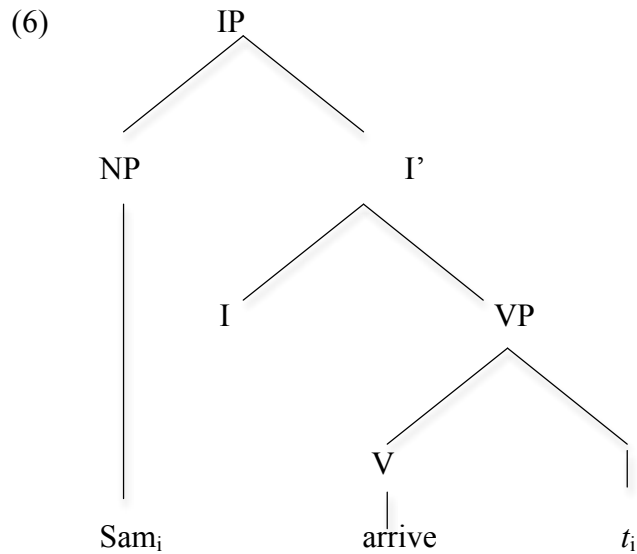
Furthermore, according to Burzio (1986), when a verb lacks an external argument it loses its ability to assign a theta-role (Agent) to its subject, hence, it cannot assign an accusative case mark. Therefore, the single argument of any type of intransitive verb is marked uniformly as nominative (only in an accusative language).

Sam in (5) is considered an argument without case:

(5) Unaccusative Verb: *arrive*

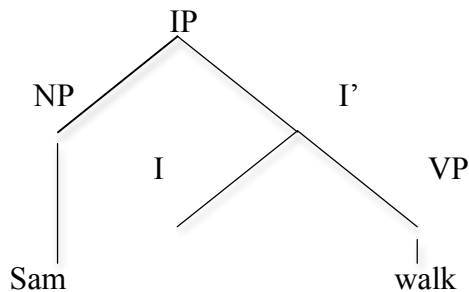


However, based on Perlmutter's (1978) analysis Themes can only occur in object position. Themes of intransitive verbs, "unaccusatives," occur in object positions, but as such verbs cannot assign case, as mentioned above, they, therefore, have to move to the subject positions. In order to acquire a subject case, Sam moves to an external position to VP as in (6):



On the other hand, unergative verbs, such as *walk*, have their argument in the subject position at both (D- and S- structure). Therefore, there is no such a movement as illustrated in (6) since the NP *Sam* originates in the subject position in D-structure:

(7) Unergative Verb: walk



In distinguishing between unaccusative verbs and unergative verbs, Sorace (2000) explained that the sole argument of an unaccusative verb corresponds syntactically to the direct object of a transitive verb, whereas the sole argument of an unergative verb corresponds to the subject of a transitive verb.

Another distinction between the two classes is while unergative verbs encode willed, volitional, controlled acts carried out with an Agent, unaccusative verbs entail change of state/location (cf. van Gelderen, 2013). In particular, it is noted that unaccusatives are associated with inchoative verbs. Unaccusative verbs typically encode the result of a complex causative event (e.g., *The ball rolled*); unergative verbs encode an activity that an Agent is engaged in (e.g., *The boy danced*).

The semantic approach to unergative/unaccusative distinction considers agentivity as some determining factors for the distinction. Unergative verbs usually involve an agent and are often described to be atelic, that is, without an inherent endpoint (e.g., *jump*). In contrast, unaccusatives are non-agentive in that they do not have an agent in the sense of the doer of the action and are telic, which means they do have an inherent endpoint (e.g., *change*, and *melt*).

Aspect is another semantic property that appears to have been noticed in the recent literature as a defining characteristic of unaccusativity (Levin and Rappaport Hovav 1995). In particular, telicity, or a natural endpoint in time, which typically characterizes the aspectual classes of achievements and accomplishments, is also considered to characterize unaccusativity (e.g., Levin and Rappaport Hovav 1995:166). The relationship between unaccusativity

and telicity is validated in part by the fact that most of the unaccusatives do not combine with adverbials of duration, for example, for an hour.

- (8) a. *Sam arrived for an hour.
- b. *The accident happened for an hour.

By contrast, unergatives, which are characterized as atelic, are compatible with the same adverbial phrase.

- (9) a. Sam danced for an hour.
- b. Sam cried for an hour.

van Gelderen (2013:87) provides a clear distinction between the characteristics of the two types of English intransitive verbs, unergative and unaccusatives, as shown in Table 4.3.

Table 4.3: Unaccusative and Unergative English Verbs (Adopted from Van Gelderen 2013:87)

Unergative (Agent argument)	Unaccusatives (Theme argument)
<i>a. deliberately is ok</i>	<i>a. deliberately is not ok</i>
the argument is human/animate	the argument can be +/- animate
- <i>She</i> deliberately smiled	- *The ice deliberately melted
<i>b. a Theme can be added</i>	<i>b. no Them can be added</i>
- I sneezed a good sneeze	*The bus arrived me
<i>c. V+er</i>	<i>c. *V+er</i>
Sneezer	* Arriver
<i>d. Have + perfect participle</i>	<i>d. be + perfect participle</i>
<i>e. *impersonal passive</i>	<i>e. impersonal passive (Dutch)</i>
<i>f. no genitive of negation</i>	<i>f. genitive of negation (Russian)</i>

4.2 Diagnostic Tests

Unaccusativity is observed cross-linguistically, *resultatives*, *agentivity*, *passivation*, *there-insertion*, *adverbial modifiers*, *Telicity*, and *cognate objects* are the most popular semantic and syntactic tests. These tests have been proposed to distinguish between unaccusative and unergative verbs. However, some of these diagnostic tests may not be applicable to other languages.

4.2.1 Resultative Constructions

The resultative construction test provides evidence that the surface subject of the unaccusative verbs is in fact the underlying object. A predicate that has no object cannot appear with a resultative phrase; hence, unergative verbs cannot take resultative phrases (cf. Levin & Rappaport Hovav 1995), as depicted in (10). However, Simpson (1983a) posited that the meaning can be expressed by reflexive NPs, as shown in sentence (11):

(10) * Sam shouted hoarse.

(11) Sami shouted herself hoarse.

In contrast to unergative verbs, unaccusative verbs may appear in resultative phrase predicted of their surface subject as in (12).

(12) The river froze solid.

However, sentence (10) is ill formed because *hoarse* cannot form a resultative relationship with the subject *Sam*. Simpson (1983) argued that:

“The controller of a resultative attribute must be an object, whether that object is a surface object, as in transitive verbs, or an underlying object, as in passives and intransitive verbs of the Unaccusative class”. (146)

Simpson's view explicates the correspondence between a controller and an object and emphasizes that the subject of unaccusative verbs is the underlying object. Thus, the subject *river* in (12) is considered to originate in the internal position, where it serves as a controller of *solid*. Furthermore, the syntactic configuration between *river* and the verb *froze* can be illustrated in the transitive constructions as in (13):

(13) The snow froze the river.

4.2.2 Adjective Passive Formation

Another unaccusative diagnostic that seems also to clarify the underlying structure of unaccusative verbs is adjective passive formation (e.g., Williams 1981a; Levin and Rappaport Hovav 1986). Let us consider the following examples in (14) and (15):

(14) The stolen car.

(15) *The worked student.

The examples above illustrate that unergative verbs cannot be converted to adjectival forms, but it is possible with unaccusative ones, as shown in (14). Furthermore, Levin and Rappaport (1989: 327) indicated that there is a parallelism between transitive objects and unaccusative subjects, which the adjectival passives are predicted of both unaccusatives' subjects and transitive objects, but not of unergative and transitive subjects.

4.2.3 There-insertion

There-insertion is possible in the context of unaccusative verbs but impossible with the unergative verbs as in (16) and (17):

(16) There arrived a man (in the garden) (unaccusatives)

(17) *There walked a man (in the garden) (unergative)

4.2.4 Cognate Objects

Many unergatives allow for a cognate object, while unaccusatives do not, as in (18a,b):

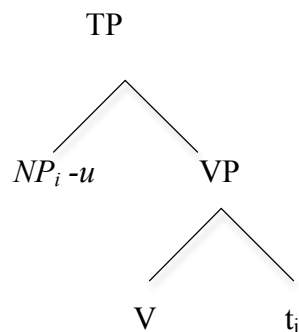
(18) a. John laughed (a hearty laugh).

b. * John arrived an arrival.

4.3 Unaccusative Verbs in Arabic

It is maintained that, as in English, sentences containing unaccusative verbs involve movement of an internal argument in Arabic. As explained earlier, the internal argument of an English unaccusative verb, which occurs within a VP, has a Theme role and fails to assign case to its internal argument; therefore, the NP moves to the external position of the VP to acquire a subject case via inflection. Arabic unaccusative verbs behave in a similar way as well, except for the fact that, in Arabic, the moved NP is overtly marked with the case marker *-u*. Arabic unaccusativity is as follows:

(19)



(20) a. Kasara Ali l-muftah-a.

Broke-3sm Ali- Nom the-key-Acc

Ali broke the key.

b. ?in-kasara l-miftah-u

broke-3sm the-key-Nom

The key broke.

In (20), the NP is assigned the Theme role by an unaccusative verb (V); since V assigns no case, the NP moves to the subject position to receive case leaving a trace.

Evidence that unaccusativity also exists in Arabic has been presented in the literature (Al-Khawalda 2011, Mohamad 1989). However, some of the unaccusative/unergative diagnostic tests used for English may not be applicable to their counterparts in Arabic.

4.3.1 Resultatives

Resultatives also serve as a diagnostic of Arabic unaccusativity (Mohmoud 1991), based on Alrashed (2012:85):

(21) a. ?in-kasara z-zujaa-j-u ila kita'in

Intr.break 3SM the-glass-Nom to pieces-GEN

The glass broke into pieces.

b. * Masha l-rajulu ta'baan-a

walk.3SM the- man-Nom tired-Acc

The man walked tired.

4.3.2 Cognate Objects

(22) a. Sarakh-a Ali-un sarkhat-an 'aalliyat-an

Sream.SM Ali-Nom a scream-Acc loud-Acc

Ali screamed a loud scream.

b. *ʔin-kasara z-zujaaj-u kasrat-an kabirat-an
 Intr.break 3SM the-glass-Nom breaking- Acc big-Acc

(Mahmoud, 1989:112, based on Al-rashed 2012:85)

4.3.3 Active Participle and Passive Participle

Al-khawalda (2011) pointed out another test that could be helpful in the distinction between unaccusatives and unergatives in Arabic, which is the use of “ʔism al-fa9il” (the name of the doer/agent) and “ʔism al-maf9uul” (the name of the object/affected) as shown in (23) and (24):

(23) a. al- walad-u naaʔim (ʔism al-faa9il)

The boy-Nom sleep.

b. al-walad-u * manuum-un (ʔism al-maf9uul)

(24) a. al-bab-u maftuuh (ʔism al-maf9uul)

The door opened.

b. al-babu *faateh. (ʔism al-faa9il)

Consequently, Arabic unaccusative verbs co-occur with the “maf9uul” augmented form with the subject whereas unergative verbs accept the “faa9il” augmented form with the subject.

4.3.4 Agentive Adverbs

Adding another piece of evidence of the difference between unaccusative and unergatives, Mahmoud (1991) pointed out that unergatives can be modified by certain adverbs but not unaccusatives. Consider the following examples:

(25) a. *saqat-a l-walad-u bihaḏarin.

fell-3SM the-boy-Nom prep-careful-Gen

The boy fell carefully.

b. rakada l-walad-u biḥaḍarin.

ran-3SM the-boy-Nom prep-careful-Gen

The boy ran carefully.

The verb in (25a) is unaccusative because *l-waladu* has no control over the action, unlike the case in (25b); (25a) is ungrammatical because the adverb refers to an agent having a control over the action. As for unaccusative verbs, they can be modified by an adjective as depicted in (26):

(26) saqat-a l-walad-u marid-an

fell-3SM the-boy-Nom sick-Acc

4.3.5 *Hunaka* Insertion (There)

(26) a. ta-jallat hunaalika ‘awaamil-u

Intr.obvious.3FS there factors-NOM

the-failures-GEN

There appeared factors of failure.

b. *bak-a hunaalika tift-un

cry.3SM there child-Nom

There cried a child.

(Adopted from Alrashed 2012:85)

Levin and Rappaport Hovav (1995) clarified that these tests may be misleading in the classification of verbs into unergative and unaccusative since it is not always the case

that a test is successful in separating the two groups of verbs. When the tests failed to draw a clear cut difference between the two groups, Sanz (2000) explained that these diagnostic tests are not taking into account some of the factors involved in unaccusativity. Van Valin (1990) concluded it is impossible to classify lexical entries as being unaccusative or unergative in a language by using these tests only.

4.4 Causative Alternation as a diagnostic

The ability of English verbs to participate in the causative alternation serves as one of the unaccusative diagnostics (Arad 1998; Burzio 1986; Rosen 1981). The ability of causative alternation to be an unaccusative diagnostic is because the sharing of a semantic role can be explained if the verb in the intransitive variant is unaccusative, so that its subject is a D-Structure object (Levin and Rappaport Hovav 1995:80).

Causative alternation requires a shift in the valency of verbs' argument structure in which the internal argument of the transitive verb can be realized as the subject of the intransitive alternant (Comrie 1985:322). The verb *break*, for instance, in the transitive use consists of dyadic valency, which takes an Agent and a Theme, yet its intransitive use represents a monadic valency that takes a Theme argument only as in (60):

(60) a. Sam^{Agent} broke the glass^{Theme}.

b. The glass^{Theme} broke.

This constraint is necessary to distinguish unaccusatives pairs from unergatives pairs. For example:

(27) a. Sam walked a mile.

b. Sam Walked.

At first glance, *walk* seems to be just like *break* and undergo the causative alternation. However, as for the constraint noted above, the verb *walk* is not eligible to enter the causative alternation because the object (a mile) is not realized as the subject of the intransitive use. Additionally, the object of the intransitive variant does not have an identical thematic role. Therefore, thematic roles account for why *walk* in (27) fails to be considered in the causative alternation. Matsuzaki (2001:14) summarized the process of the causative alternation as: (1) a shift in valency of the arguments of the verb, (2) parallelism between the subject of the transitive construction and the object of the intransitive construction, and (3) the preservation of the thematic role assigned to the verb's internal argument. Hence, any verb that does not comply with this process would not be diagnosed as an unaccusative verb.

As mentioned in Chapter 3, many verbs appear in different structures, and one reason behind that is alternation. Hence, many of the intransitive verbs that alternate in transitivity are unaccusatives. However, van Gelderen (2013: 89) stated that not all the unaccusative verbs participate in the alternation; therefore, unaccusative verbs split into two subclasses, *alternating and non-alternating*. In other words, only a subset of the unaccusative verbs can alternately occur in transitive constructions. She listed the following verbs as non-alternating unaccusatives that are not causativized, that is, not all the unaccusative verbs participate in the alternation (2013: 89):

(28) appear, arise, come, occur, arrive, sit, exist, emerge, follow.

Further, let us consider the English verbs *happen* and *break* as depicted in (29) and (30).

The verb *happen* can only occur in non-alternating unaccusatives constructions:

(29) a. The accident happened.

b. * My brother happened the accident.

By contrast, the transitive verb *break* can occur in alternating unaccusatives constructions as shown in (30):

(30) a. The boy broke the window.

b. The window broke.

Based on the puzzle that is illustrated in (29) and (30), a question has been proposed in the literature (Schäfer 2009; Matsuzaki 2001, Levin and Rappaport Hovav 1995): what aspects of the unaccusative verbs as in (29) make them unable to alternate with transitive use as the verb in (30)? Such different behavior has been illustrated on semantic and syntactic grounds. However, this issue will be discussed in detail in Chapter 5 to include the different approaches that went to account for such differing behaviors among unaccusative verbs.

In Chapter 5, the following subjects will be discussed: the semantic and syntactic aspects of the causative alternation, and why some verbs participate in this alternation while others do not. Moreover, Chapter 5 will widen the scope of this cross-linguistic phenomenon to encompass Arabic to explicate the similarities and differences in contrast with English.

CHAPTER 5

CAUSATIVE ALTERNATION PHENOMENON

As mentioned in Chapter 4, unaccusativity helps us better understand the causative alternation process. The causative alternation reveals a split within the English intransitive verbs in which some intransitive verbs are able to participate in this alternation whereas other intransitive verbs do not. This phenomenon, *Causative Alternation*⁵, has been considered as one of the prominent syntactic behaviors vis-à-vis verbs and their co-occurring arguments. This alternation phenomenon is observed cross-linguistically and has been investigated in different languages, such as English, German, Italian, and so forth. The complexity of this phenomenon is attributed to the following question: What makes a verb like *break* participate in this alternation but not a verb like *laugh*? Fillmore (1970) specified that change-of-state verbs are mainly participating in this alternation. Hence, many verbs cited as prototypical unaccusatives participate in the causative alternation. In contrast, prototypical unergative verbs do not participate in the alternation. However, another issue has been raised within the causative alternation, that is, there is a subset within the unaccusative subclass that does not participate in this alteration either. The aims of this chapter are to provide an overview of the lexical causative verbs and their anti-causative (inchoative) counterparts and to broaden the investigation of the causative alternation phenomenon to Arabic.

⁵Other labels for the causative alternation are unaccusative alternation, transitivity alternation, inchoative-causative alternation, anti-causatives alternation, and sometimes ergative alternation. In this paper, I restrict the causative alternation to refer to the alternation between the two classes of the intransitive verbs, unaccusative and unergative. Further, I refer to the causative alternation that occurs within the unaccusative verbs subclass to inchoative-causative alternation.

5.1 Conditions for Causative Alternation

The causative alternation has been considered to be a hallmark of change-of-state verbs as for prototypical unaccusative verbs such as *break*, *open* (e.g., Fillmore 1970). In contrast, verbs that are prototypically unergative, such as *laugh*, and *play*, do not participate in this alternation as shown in the following examples:

- (1) a. The children played.
b. *The teacher played the children.
- (2) a. The actor spoke.
b. *The director spoke the actor.
- (3) a. The crowd laughed.
b. *The comedian laughed the crowd.

(Levin and Rappaport 1995:80)

Since the causative alternation is well attested among change-of-state verbs, this alternation is portrayed when the transitive use denotes “cause to V-intransitive” meaning (Levin and Rappaport Hovav 1995:79), and when the intransitive use denotes a change-of-state event. The example in (4) illustrates the alternation:

- (4) a. The glass broke.
b. The boy broke the glass.

While the intransitive verb in (4a) designates a change-of-state event of the subject “the glass,” the transitive verb in sentence (4b) conveys that the boy caused the glass to break. Hence, a main feature of causative alternation is that the subject in the intransitive variant carries the same semantic relation to the verb as the object of the transitive variant.

5.1.1 Change of State as a Verb Type

In the linguistic literature, verbs that undergo the causative alternation have been understood to indicate a change of state brought about on the Theme argument. Jespersen (1927) attributed this split within intransitives to be due to the verb type, that is, verbs do not alternate in transitivity if the verb does not express a change of state. Therefore, verbs that participate in the alternation express a change of state as in (4). He pointed out that verbs, which bring about a change in a person or a thing, tend to be “double-faced” or alternate in transitivity in English (Jespersen 1927:332).

Fillmore (1970) clearly illustrated this point by comparing the verbs *break* and *hit*.

(5) a. John/A rock broke the stick.

The stick broke.

b. John/A rock hit the tree.

*The tree hit.

(Fillmore 1970:122-123)

According to Fillmore, the reason why a contact verb like *hit* fails to alternate in transitivity is that, unlike *break*, it does not inherently entail any effect or change of state on a co-occurring Theme argument. This point is illustrated more explicitly in (6).

(6) a. I hit the vase with a hammer, but it did not break; it was made of iron.

b. *I broke the vase with a hammer, but it did not break; it was made of iron.

Therefore, Fillmore concluded that *break* participates in the causative alternation because it lexically entails a change of state.

Chierchia (1989), for example, suggests that unaccusative verbs are derived from dyadic causative verbs, whereas unergative verbs are monadic; hence, unaccusatives only participate in the causative alternation. In his footsteps, Reinhart (1991) argued that all unaccusative verbs are basically causatives. Different from Chierchia and Reinhart, Levin and Rappaport Hovav (1995) argued that a large class of unaccusative verbs is valid under causative semantic analysis, yet it is not valid for all of them, that are non-alternating unaccusatives. They added that non-alternating intransitive verbs do not involve the predicate “Cause;” thus, they are monadic verbs. Based on that, they classified intransitive verbs into different classes: the first one is the class of unaccusatives whose lexical semantics representation is basically causative (dyadic) verb and whose argument structure involves a single direct internal argument. Second is a class that contains the unergative verbs, which are basically monadic verbs in terms of having just a single external argument.

Levin (1985) specified the types of change associated with verbs, maintaining that verbs of change of state and position undergo the ergative alternation in English. Levin and Rappaport Hovav (1995: 83) distinguished the lexical semantic representation for alternating and non-alternating intransitive verbs as follows:

(7) *break* : [[*x* DO-SOMETHING] CAUSE [*y* BECOME BROKEN]]

(8) *laugh*: [*x* DO LAUGH]

Taking a syntactic approach, Rosen (1989) argued the classification of the two classes of intransitive verbs is not predictable on the basis of meaning alone because not all unergatives and unaccusatives verbs represent a common semantic property in all

languages. For instance, *die* acts as unergative in Choctaw but as unaccusative in Italian. However, change-of-state verbs is not the sole factor in determining if the verb is going to alternate in the causative alternation or not.

Rappaport Hovav (1994:41) pointed out that some groups of verbs, such as verbs of emission and position, which are not identified with verbs of change of state, do alternate in transitivity as illustrated below:

(9) a. Tom beamed the flashlight.

The flashlight beamed.

b. Tom hung the photo on the wall.

The photo hung on the wall.

(Levin and Rappaport Hovav 1994:42)

Importantly, we should note that not all change-of-state verbs participate in the causative alternation. Levin and Rappaport Hovav (1995), for instance, explicated that verbs of change, such as *cut* and *destroy*, do not participate in the transitivity alternation as illustrated below:

(10) a. The bomb destroyed the city.

b. *The city destroyed.

As illustrated in (10) and (11), change of state is not the only determinant for verbs to participate in the causative alternation.

Verbs expressing a change of state are often de-adjectival (van Gelderen (2013:89). She explained that the reason for this is that the adjectives show the results. The de-adjectival verbs have been divided into two groups: verbs that are formed from

adjectives by using –en, as in Table 5.1 and verbs that are zero-related to adjectives, as in Table 5.2.

Table 5.1: The Causative Suffix –en For Adjective-Verb Pairs

awaken, blacken, brighten, broaden, cheapen, coarsen, dampen, darken, deafen, deepen, fasten, fatten, flatten, freshen, frighten, gladden, harden, hasten, hearten, heighten, lengthen, lessen, lighten, loosen, madden, moisten, neatens, quicken, quieten, redden, ripen, roughen, sadden, sharpen, shorten, sicken, slacken, smarten, soften, stiffen, straighten, strengthen, sweeten, tauten, tighten, toughen, waken, weaken, whiten, widen, worsen..

(Adopted from Levin & Rappaport Hovav 1995: 96)

Table 5.2: A zero-affix with adjective-verb pairs

brown, clean, clear, cool, crisp, dim, dirty, dry, dull, empty, even, firm, level, loose, mellow, muddy, narrow, open, pale, quiet, round, shut, slack, slim, slow, smooth, sober, sour, steady, tame, tan, tense, thin, warm, yellow,...

(Adopted from Levin & Rappaport Hovav 1995: 95)

Furthermore, Schäfer (2009) stated that change of states are also derived from the verbalizers ‘–ize’, ‘–ate’, and ‘–ify’, as the following:

- (11) a. intensify, liquefy, purify, . . .
- b. caramelize, equalize, neutralize, . . .
- c. agglomerate, dissipate, evaporate, . . .

From an aspectual view, Dowty (1979) elucidated that change-of-state verbs are accomplishments or achievements, which involve an end-point. Therefore, change-of-state verbs have a complex event structure as in (7) Schäfer (2009: 652):

- (12) a. [become [y <STATE>]]
b. [x cause [become [y <STATE>]]]

This structure designates that intransitive change-of-state verbs entail a BECOME predicate that takes a resultative state predicted on its Theme argument. In addition to a BECOME predicate, a transitive change-of-state verb takes a CAUSE predicate and introduces a causer argument. The presence of the result states reflects that changes-of-state events are accomplishment or achievement.

Levin and Rappaport Havov (1995) added that non-agentive verbs of motion could be also subsumed under the notion that “change of state” is they express a change in location as in (13b):

- (13) a. break, close, dry, melt, open, thicken, widen,..
b. roll, rotate, spin, bounce.

5.1.2 Agentivity

Agentivity is considered another factor that determines the alternatability of English verbs. For instance, Levin and Rappaport Hovav (1995) clarified that some events cannot come about without the intervention of an agent. Therefore, some verbs that have a transitive use cannot be detransitivized when the verb requires an animate as a subject; hence, they restrict their subject to a volitional Agent. For example:

- (14) a. The terrorist assassinated/ murdered the senator.

b. *The explosion assassinated/ murdered the senator.

Levin and Rappaport (1995:102)

The verbs' eventualities in (14 a, b) must be brought about by a volitional agent and they cannot come about independently. Therefore, such verbs entail a volition agent as a part of their inherent meaning to which their unalternability is attributed.

By contrast, agentivity should not be considered an essential semantic factor for a verb to alternate (cf. Talmy 1976, 1985; Levin and Rappaport 1995). For example, some verbs allow an instrument or natural forces as subject in the transitive use, as listed in the following examples:

- (15) a. The ax broke the window.
b. The earthquake broke the window.
c. The falling stone broke the window.

(Matsuzaki, 2001: 73)

5.1.3 Internal vs. External Causation

As illustrated above, a verb such as *break* has a transitive causative use as well as intransitive use, while a verb like *laugh* does not show a transitive use but only an intransitive use. What makes a verb such as *break* behave differently than *laugh* in having a transitive causative counterpart? In answering this question, Smith (1978) pointed out that externally caused verbs can turn up as intransitive when they can occur independently without an external argument. Therefore, she proposed the notion of “control” as a determiner of the existence of transitive causative uses between those intransitive verbs. Thus, verbs like *break* and *open* participate in the causative alternation

because they describe results that are under control of an external cause that causes such results to occur. A verb such as *laugh* does not have the property that the verb *break* has; hence, the results that such a verb describes cannot be externally controlled but can only be controlled by the person engaging it. Additionally, Smith clarified the lack of a causative transitive use to the existence of “internal control” (Smith 1978:107; cf. Levin and Rappaport Hovav 1995:90).

Following Smith, Levin and Rappaport Hovav (1995) used a different notion than Smith’s notion of control. They expanded on Smith’s work by making a distinction between externally and internally caused eventualities. They attributed the denial of verb participation in the causative alternation to the inherent property internal physical characteristics of some verbs’ argument that is responsible for causing eventualities to occur”, such as *blush* or *tremble* or to the will or volition of the Agent who performs activities as *play* and *speak*. In contrast, participating in the causative alternation is contributed to the existence of “external cause” that has control over verbs’ eventualities, such as an agent, an instrument, or a natural force to occur. In short, while externally caused verbs are dyadic that do not need to express their cause argument, that is, giving rise to an unaccusative intransitive use, internally caused verbs are monadic that bring about unergative verbs.

Haspelmath (1993) developed a new notion that influences a verb’s transitivity, which is *spontaneous occurrence*. For Haspelmath, verbs that are likely to occur spontaneously will have an intransitive use. Thus, the verb *wash* is not likely to have an intransitive use because it always occurs spontaneously; however, verbs such as *laugh* or

break will have both transitive and intransitive use since, they may occur spontaneously or they may not occur spontaneously.

5.2 Direction of Derivation of English Intransitive Verbs

While there is a consensus in the field about the existence of a derivational relationship between verbs undergoing the causative alternation, it is still considered one of the main issues that is discussed in the literature in regard to the causative alternation. In some languages, the derivation is distinguished morphologically. For languages like English, however, the distinction between transitives and intransitives is not overtly marked, which leads to uncertainty about which form is derived and which is basic.

Some lexicalist approaches state that the transitive variant is derived from the intransitive variant, that is, the causative is derived from the anti-causative, by adding one argument that is an agent. Other approaches propose that the intransitive form is derived from the transitive by deleting one argument that is the agent. Common base approaches suggest that both the transitive and the intransitive forms are formulated from a common base as Schäfer (2009) clarified.

5.2.1 Causativization Approach

According to this approach, the intransitive form is the base and a causative predicate is added to the Lexical Conceptual Structure (LCS) to make the verb transitive. Thus, in this view, the transitive verb *break* is derived from the intransitive *break* as a result of the addition of the semantic element CAUSE. As represented in the causativization rule below (Dowty, 1979):

(16) LCS: [(x) CHANGE] @ [(y) CAUSE [(x) CHANGE]]

The glass broke © Kim broke the glass

The representation in (16) illustrates that the transitive is derived from the intransitive by virtue of the causativization rule.

5.2.2 Anti-causativization Approach

In contrast to causativization, intransitives are derived from transitive; hence, transitives are basic. In support of this view, Levin and Rappaport Hovav (1995: 86) assumed that the basic use will show less restriction on its arguments; thus, the use with weaker selectional restriction will be basic. Hence, due to the selectional restriction on the subject of intransitive verbs, it appears to be the derived form. Furthermore, they explain that there is a selectional restriction on the subject of intransitive verbs but not on the object of transitives; therefore, the selectional restriction on the object of transitive use and the subject of intransitive use do not coincide, so the subject of intransitives are a subset of the object of transitives as illustrated in (17) and (18):

(17) a. The waiter cleared the table.

b. *The table cleared.

(18) a. The dressmaker lengthened the skirt.

b. *The skirt lengthened

(Levin and Rappaport Hovav 1995:86)

The sentences in (17a) and (18a) demonstrate that the syntactic objects *table* and *skirt* of the transitive use failed to occur in subject position of the transitive use as in (17b) and (18b). Therefore, Levin and Rappaport Hovav (1995) concluded that the transitive use of the verbs *clear* and *lengthened* is basic. Hence, the lexical semantic representation (LSR)

of this approach is depicted in the decausativization rule in (19) (Levin and Rappaport 1995:108):

(19) LRS: [(y) CAUSE [(x) CHANGE]] @ [(x) CHANGE]

[(Kim) CAUSE [(the glass) CHANGE]] ⇒ [(the glass) CHANGE]

Kim broke the glass ⇒ the glass broke.

5.3 Arabic Causative Alternation

The causative alternation in English, as illustrated above, has been modeled in terms of the causativization of unaccusative verbs. Therefore, the causative alternation has been considered as a probe into the nature of unaccusativity while ignoring any possibility of participating unergative verbs in this phenomenon. Although this type of alternation is universal, languages differ with respect to the way they express causativization, and the types of verbs entering into the alternation.

Thus, I argue that Arabic unergative verbs participate in the causative alternation through morphological devices. Hence, Arabic unergative verbs expressing an activity like *run* (*rakada*), *laugh* (*dahika*), and *dance* (*rakasa*) can have a lexical causative alternate. I also assume that there is no unergative, unaccusative dichotomy in Arabic; consequently, there is no inchoative/causative alternation, but only a *Causativization process* which is characterized by the alternation between intransitive verbs and their causative counterpart. Thus, intransitivity and causation process exist side by side, that is, Arabic causatives are mainly derived from intransitives. Arabic intransitivity process cannot be explained without considering their causatives counterpart.

5.3.1 Arabic Causatives Forms

In Arabic, covert causatives⁶ are divided into three classes, which are derived from the basic trilateral Form I verb:

(i) Form I —————> FaʿaLa

The following example illustrates the first class of Arabic causatives. The causative verbs of this class are not morphologically derived:

(20) hazan-a l-rajul-u l-walad-a
sad-make the-man-NOM the-boy- ACC
“The man sadden the boy”

Causatives verbs under II and IV forms are morphologically derived from Transitives:

(ii) Form II —————> FaʿʿaLa

(21) Dawwab-a Ali-un l-shamaʿat-a
Melt.CAUSE Ali- NOM the-candle- ACC
‘Ali melted the candle’

(iii) Form IV —————> ʔaFʿaLa

(22) ʔ-dhaka⁷ Ali Mona
Laugh. CAUSE Ali- NOM Mona- ACC
‘Ali made Mona Laugh’

5.3.2 Arabic Intransitives Forms

(i) Form I —————> FaʿaLa, FaʿiLa, FaʿuLa

(23) rakad-a Ali / hazina l-walad-u

⁶ In this paper I am not dealing with overt/periphrastic causatives in Arabic such as jaʿala zayd-un hinda-n tarquus-u ‘Zayd made hind dance’.

⁷ Adopted from “An English-Arabic Lexicon” Dictionary.

ran.Past Ali (NOM). / sad. Past the-boy(NOM)

“Ali ran” / “The boy became sad.”

(ii) Form V —————> taFaʕaLa

(25) ta-dahrajat l-kurat-u

Rolled.past the-ball (NOM)

“The ball rolled “

(iii) Form VII —————> ʔinFaʕaLa

(24) ʔin-kasara l-zujaj-u

broke the- glass (NOM)

“The glass broke”

As illustrated in the above examples, Arabic intransitive predicates are characterized through Form I (*dahika*)/(*laugh*), Form V (*ta-dahraja*)/(*roll down*) and Form VII (*ʔin-kasara*)/(*break*), and Arabic causative verbs are characterized by Form I (*hazana*)/(*be sad*), Form II (*dawwaba*)/(*Melt*), and Form IV (*ʔ-dhaka*)/(*laugh*).

5.3.3 The Source of Derivation of Arabic Intransitive Verbs

(26) a. ʔin-kasara l-zujaj-u **Intransitive F VII**

“the glass broke”

b. Ali kasara alzujaj Causative F I

“Ali broke the glass”

(27) a. ta-dhrajat l-kura **Intransitive F V**

“The ball rolled”

b. Ali dahraja l-kur-a Causative FI

“Ali rolled the ball”

(28) a. dahika Ali **Intransitive FI**

“Ali laugh”

b. ʔ-dhaka Ali Ahmad Causative F IV

b. dahhaka Ali Ahmad Causative FII

“Ali made Alhmad laugh”

As we see from the data above, for each intransitive verb there is a causative counterpart. The question here is, which one is the basic and which one is the derived? Are Arabic intransitive verbs derived from causatives or are causative verbs derived from intransitives?

There is actually a very simple way to go about answering this question, that is, the form that is morphologically marked is derived and the form that is not morphologically marked is the basic one. Accordingly, the source of derivation is indicated by morphology; hence, in sentences (26) and (27) the intransitive verb is derived and the causative is the basic since it is not morphologically marked. In sentence (28) the causative verbs are the ones that are derived since their intransitive counterpart is the one that is not morphologically marked. However, I believe that depending on morphological devices only to verify which form is basic and which form is derived would not be sufficient. Therefore, I assume that there is a causativization process that is responsible for distinguishing the basic form from the derived one.

Sa’ad (1982:75) states that it is impossible to derive more than one causative verb from every causativizable verb in the language. Therefore, what is understandable from

this statement is that the derivation of causative verbs is limited only to one application.

Thus, I assume that only basic causatives are the ones that are able to derive another causative from it. This entails that a derived causative is not a basic form causative.

Therefore, I will use this statement, which I will name henceforth as the

“causativizability rule,” as a determinant of the derivation source of causatives verbs.

Therefore, if the causatives verbs in (26), (27) and (28) are basic Forms then they should be able to derive another causative verb; yet, if they are derived causatives, then deriving another causative verb from it will be impossible based on the causativizability rule

below:

(29) Causativizability rule: basic causative verb is only able to re-causativize one time.

Before re-evaluating the causative verbs in the above sentences we need to know how causative verbs can be derived from another verb. Sa’ad (1982) explained that causatives are derived by means of adding a glottal ‘?’ to the base form, which will entail a derived causative that takes two objects; however, I also assume that a causative verb could be causativized by the mean of gemination as well, since it is one of the morphological devices that distinguishes causative verbs from other verbs. Henceforth, I will call the process that is responsible for deriving causatives by means of glottal ‘?’ or gemination as the “Causativization rule.”

(30) Causativization rule: causatives are derived by means of glottal ‘?’ or gemination and take two objects.

Accordingly, in order to find out if the causative verbs in the above sentences are the base forms, they should be able to derive a glottal causative with two objects.

- (31) a. kasara Ali alzujaj-a **Causative Form I**
 b. *ʔksara Ali l-walad-a l-zujaj-a Adding glottal ‘ʔ’
 c. *Kassara Ali l-walad-a l-zujaj-a Adding gemination
 break. cause the-boy(ACC) Ali the-galss(ACC)
 *Ali made the boy made the glass break.
- (32) a. ʔ-dhaka⁸ Ali Ahmad **Causative Form IV**
 b. *ʔ-dhaka Ali **l-walad-a** Ahmad. Adding glottal ‘ʔ’ and object
 c. *dahhaka Ali **l-walad-a** Ahmad. Adding gemination and object
 “*ALi made the boy made Ahmad laugh”
- (33) a. ʔ-rkada l-mudarib-u l-a’wlad. **Causative Form IV**
 b. *ʔ-rkada l-mudarib-u **Ali** l-a’wlad. Adding glottal ‘ʔ’ and object
 c. *rakkada l-mudarib-u **Ali** l-a’wlad. Adding gemination and object
 *Ali made zayd made Ahmad laugh.

The sentences in (31b,c), (32b,c) and (33b,c) are ungrammatical because none of the causative verbs were able to be re-causativized through glottal ‘ʔ’ or gemination. Based on the proposed causativizability rule and the causativization rule, failing to derive a glottal or geminated causative from a causativizable verb would indicate that these causative verbs are not basic. Therefore, the causatives verbs from sentences (31b,c) to (33b,c) are derived causatives and not basic forms. Returning to the causatives

⁸ Adopted from “An English-Arabic Lexicon” Dictionary.

counterparts in examples (26) to (28), I assume that they are derived and all Arabic intransitive verbs are causativizable. This entails that Arabic intransitive verbs do not have a transitive counterpart but only have a causative counterpart.

5.3.4 Intransitives of Denominal Causatives Form II and Form IV

Denominal verbs in Arabic are the verbs that are derived from nouns because they lack base forms⁹, i.e., FaʿaLa, FaʿiLa, or FaʿuLa (cf. al-Dobaian 2005:70). Some Arabic intransitive verbs are denominal causatives, that is, this group of intransitives depict causative forms as shown in Table 5.3:

Table 5.3: Arabic Intransitive Denominal Causatives

Nouns	Intransitive - Denominal causatives
Zahr / flower	ʔ-zhar/ bloomed = Intransitive with causative Form IV
Shajar / Tree	ʔ-shjar/ plant-ized = Intransitive with causative Form IV
Bahar/ Sea	ʔ-bhara/ sailed = Intransitive with causative Form IV
Laban / yougurt	ʔ-lban/ make milk = Intransitive with causative Form IV
Jaish/ Army	Jayyasha / make an army = Intransitive with causative Form II
Jild/ skin	Jallada / bound a book = Intransitive with causative Form II
Masa/ night	ʔ-msa/ be in night = Intransitive with causative Form IV
Sabab/cause	Sabbaba/ to cause= Intransitive with causative Form II
Lawn/ color	Lawwana/ to color= Intransitive with causative Form II
Waraq/leaves	ʔ-wraqat/ to = intransitive with causative form IV

(Hans Wehr Dictionary 4th ed.)

⁹ For more about Arabic denominal verbs see Al-Dobaian's (2005) paper.

Arabic denominal causatives cannot be causativized, as shown in (34):

(34) a. ?-zharat l-warda-tu

bloom.Cause the-flower.F (Nom)

“The flower bloomed”

b. * ?-zhar-a l-ma’u l-ward-a

bloom.Cause the-water(NOM) the-flower.F(ACC)

The water bloomed the flower.

It was proposed in the literature (Levin and Rappaport Hovav 1995) that the reason behind this type of change-of-state verb *?-zharat/ bloom* does not participate in the causative alternation is the existence of inherent internal causation that is responsible for bringing about the eventuality. However, it appears that this is not the case in Arabic. For instance, the verb *?bhara/sail*, as in (35), cannot indicate an internal cause that is responsible for bringing about the sailing.

(35) ?-bhara l-a’meer-u.

“the prince sailed”

(Retrieved from ArabiCorpus)

Haak (1997) and Al-Dobaian (2005) explained that denominal verbs are derived from nouns because the Form I verb of the same root does not exist. For this reason, I assume that Arabic intransitive denominal verbs do not participate in the causative alternation because they lack the intransitive Form I counterpart. This assumption can be confirmed if causatives Form IV and II are derived from the intransitive form I; therefore, the disappearance of a causative counterpart is due to an intransitive verb being replaced

by a causative one, see 5.6 for details. It is worth noting that denominal verbs in English are normally prototypical unergative verbs; however, in Arabic, change-of-state verbs could be denominal as well.

5.3.5 Intransitives of De-adjectival

Arabic Form IX verbs are commonly characterized as verbs that depict colors or physical defects. Those verbs are very rare; Haak (1997:106) stated that there are only 12 occurrences of pattern IX verbs in the Qur'an. Those verbs are change-of-state verbs and they do not participate in the causative alternation because their adjectives are derived from nouns in the first place. In contrast, English de-adjectival change-of-state verbs participate in the causative alternation.

Table 5.4: Arabic De-adjectival Intransitive Verbs

Noun/root	Adjective	Intransitive – De-adjectival Form IX 'ifʿalla'
Hamr/asphalt	ahmar/red	ihmarra/ to become red
Safr/copper	asfar/yellow	isfarra/ to become yellow
Khdar/ trees	akhdar/green	ikhdarra/ to become green
Swad	aswad/black	iswadda/ to become black
'araj/lameness	a'raj/lame	a'raj/ to become lame
'awar/one-eyed-ness	a'3war/one-eyed	iwarra/ to become one-eyed
'awaj/crookedness	a'waj/crooked	iwajja/ to become crooked

(Hans Wehr Dictionary 4th ed.)

Tables 5.3 and 5.4 indicate that, if an intransitive verb depicts a causative form, it would not participate in the causative alternation since it combines both an intransitive meaning and a causative form at the same time.

5.4 Arabic Causativizable Intransitives

As illustrated earlier, English intransitive verbs are categorized into two classes, unergatives in which its subject carries an Agent thematic role and unaccusatives in which its subject corresponds to the object in the transitive use that carries a Theme thematic role. Moreover, English unergative verbs do not participate in the causative alternation, which only correlates with unaccusatives. However, when comparing English intransitive verbs to Arabic intransitive verbs, I assume that these two languages are similar in one aspect and differ in others with regard to intransitivity. Therefore, Arabic intransitive verbs are similar to English intransitives in which they are classified into two verb groups. While in one of these verb groups' constructions the subject carries an Agent theta role, the other verb group carries a Theme theta role, as shown in (36) and (37):

(36) rakada l-walad-u^{AGENT}

run.Past the-boy(NOM)

“the boy ran”

(37) mata l-rajul-u^{THEME}

die.Past the-man(NOM)

“The man died”

As illustrated earlier, the sole argument of the English unaccusative verb corresponds

syntactically to the direct object of a transitive verb, and the sole argument of an English unergative verb corresponds to the subject of a transitive verb. However, the sole argument of Arabic intransitive verbs in both groups corresponds syntactically to the direct object of a causative verb. Let us examine the following examples:

(38) a. rakad-a l-walad-u^{Sub/AGENT}

run.Past the-boy-NOM

“The boy ran”

b. ?-rkada l-mudarib-u^{Sub/CAUSER} l-walad-a^{Obj/AGENT}

run.made the-trainer -NOM the-boy-ACC

“The trainer made the boy run”

(39) a. ḍab-a l-ṯalj-u^{Sub/THEME}

melt.Past the-snow-NOM

“The snow melted”

b. ?-ḍab-at l-shams-u^{Sub/CAUSER} l-ṯalj-a^{Obj/THEME}

melt.made.F the-sun -NOM the-snow-ACC

“The sun melted the snow”

It is interesting to observe that the sole argument of the Arabic intransitive verb in (38), which is equivalent to an English unergative verb, corresponds to an object in a causative use with a similar theta role, that is, Agent. As for (39), which is equivalent to an unaccusative verb in English, its sole argument corresponds also to an object in a causative use with a Theme theta role rather than an Agent as in (38). Hence, the only difference between the Arabic intransitives in (38) and (39) is that the former involves an

Agent subject and the latter involves a Theme subject. Therefore, Arabic intransitives groups are syntactically alike, though the semantic relationship between them is not maintained.

In sum, in English, the single argument of an unaccusative verb is syntactically equivalent to the direct object of a transitive verb, whereas the single argument of an unergative verb is syntactically equivalent to the subject of a transitive verb. Whereas, in Arabic, the single argument of an active verb (unergative in English) is syntactically equivalent to the object of a causative verb; this yields a causer and an Agent in the same sentence, that is, causer use, which will contribute in modifying the syntactic configuration for those verbs.

5.5 Active and Change-of-State Arabic Intransitive Verbs

As shown above, Arabic intransitive verbs behave in a similar manner syntactically. For this reason, I assume that there is no syntactical split between Arabic intransitive verbs, and they both participate in the causative alternation. However, since Arabic intransitive verbs contrast semantically, I assume they belong to different types of verbs. The verb *rakada/run* in (11) indicates an action (activity verb) and the verb *ḍaba/melt* in (12) indicates a non-action, specifically, change of state. Therefore, I assume that Arabic intransitive verbs are divided into active and change-of-state verbs where the change-of-state verbs would encompass stative verbs. The active intransitive group involves an Agent for its sole argument, and the non-active/inchoative intransitive group involves a Theme for its sole argument, and both subjects correspond to an object in the causative use.

5.5.1 Inchoative/causative Alternation in Arabic

As illustrated earlier, English unaccusative verbs are divided into two groups, that is, alternating and non-alternating unaccusatives. Whereas alternating unaccusatives participate in the causative alternation, non-alternating unaccusatives do not participate in the causative alternation; if it does, then ungrammatical structure will be derived, as shown in (40) and (41):

(40) a. The rabbit appeared.

b. * The magician appeared the rabbit.

(41) a. The man cut the bread.

b. * The bread cut.

It has been claimed the reason behind the ungrammatical structure in (40b) is that the verb can come about without a volitional intervention of an Agent (cf. Levin and Rappaport, 1995), and the reason for the ill-formed structure in (41b) is that the verb requires an animate as a subject. (cf. Levin and Rappaport 1995). Therefore, it is assumed that the semantic properties of the intransitive verbs are essential in determining their argument structure. However, Arabic intransitive verbs appear not to be sensitive to this fact, as depicted in (42) and (43):

(43) a. dahara l-a'rnab-u

appear.Past the-rabbit

“The rabbit appeared”

b. ?-dhara l-saher-u l-a'rnab-a

appear.made the-magician-Nom the-rabbit-ACC

“The magician made the rabbit appear”

(43) a. qata’a l-rajul-u l-habl-a
cut.Past the-man- Nom the-rope- ACC

“the man cut the rope”

b. ?in-qata’a l-habl-u
cut.Past the-rope.

“The rope cut”

Examples (42) and (43) illustrate that the semantic properties which constrain English intransitive verbs do not constrain Arabic intransitive verbs. This also entails that Arabic does not have the alternating and non-alternating dichotomy within the change of state/inchoative subclass. Moreover, I assume that Agency in Arabic should be defined in terms of causality rather than in term of animateness. Therefore, Agents in Arabic is the entity (animate or inanimate) that initiates or causally involves bringing about the action.

5.6 Morphological Distribution of Causativizable intransitive Verbs

As explained earlier, causative verbs are derived from intransitives and Arabic intransitive verbs are divided into active and change-of-state verbs. Consequently, causatives are derived either from active verbs or change-of-state verbs. I assume that Arabic intransitives dichotomy is partially maintained by morphological distribution of causatives. For instance, whereas causatives Forms II and IV are derived from intransitives Form I (active and change of state), causatives Form I are derived from intransitives Forms VII or V (mainly, change of state), as shown in Tables 5.5 and 5.6, respectively.

Table 5.5: Morphological Derivation Of Causatives Forms II and Form IV from Intransitives Form I.

Intransitives (actives/change of state) Form I (FaʕaLa, FaʕiLa, FaʕuLa)		Causatives Form II (FaʕʕaLa)	Causatives Form IV (ʔaFLaʕa)
1. change-of-state verb	Fariha/became happy	farraha	ʔafraha
2. change-of-state verb	Saʕuba/ became difficult	Saʕʕba	_____
3. change-of-state verb	ʕaʕa/became spread	_____	ʔa ʕaʕa
4. Active verb	Nazala/to go down/descend	Nazzala	ʔanzala
5. Active verb	Jalasa/ to sit down	_____	ʔajlasa

It appears from the table above that some change-of-state intransitive verbs would derive causatives in Forms II and IV as in (1); however, they may prefer deriving Form II over Form IV as in (2) and (3), respectively. Active intransitive verbs behave in a similar fashion to change-of-state intransitives verbs in which that they may derive forms II and IV as in (4) or may derive only Form IV as in (5). If a Form I verb is intransitive, the derived causatives are Forms II or IV. This finding conforms to my earlier assumption, which is, causatives Forms IV and II do not participate in the causative alternation

because the lack of an intransitive counterpart Form I from which they are mainly derived.

Table 5.6: Morphological Derivation of Causatives ‘Form I’ from Intransitives ‘Forms VII or V’.

Intransitives (Mainly change of state)			
Intransitives Form VII (ʔinFaʕaLa)	Causatives Form I	Intransitive Form V (taFaLaʕa)	Causatives Form I
ʔin-kasara/break	kasara	Ta-dahraja/roll	dahraja
ʔin-fataha/open	fataha	Ta-haraka/move	haraka
ʔin-haraqa/burn	haraqa	Ta-hawala/turn	hawala

As a result, I assume that causatives Form I are mainly derived from change of state/motion intransitive verbs Form VII and Form V. This also entails that there are semantic differences between morphological classes of intransitives. Change-of-state intransitive verbs are normally marked with prefixes *ʔin-* or *ta-* while active intransitive verbs lack the morphological markers. This assumption leads me to agree with Schäfer’s (2009: 658) statement, that is, the choice of morphological marking has an effect on the aspectual interpretation of intransitive verbs.

Accordingly, I assume that causative alternation is very sensitive to Arabic verbal templates, which in turn have a big impact on Arabic intransitives and causatives

argument structure. Indeed, I assume that Arabic intransitive and causative verbs should comply with the verbal templates to avoid ill-formed usages.

5.7 Semantic Representation of Arabic Intransitives

Intransitive Form I (action)

(44) dahika^{DO} ALi / Ali laugh.

Intransitive Form I (change of state)

(45) hazina^{BECOME} Omar / Omar became sad.

Marked intransitive Form VII

(46) ʔin-sahara^{BECOME} l-hadeed /The iron melted.

Marked intransitive Form V

(47) ta-dahrajat^{BECOME} l-kura/ The ball rolled.

Not marked causative Form I

(48) Kasara^{CAUSE} Ahmad l-zujaja/ Ahmad broke the glass.

Marked causative Form IV or II

(49) ʔ-dhaka^{CAUSE} Omar Ali/ Omar made Ali laugh.

(50) dahhaka^{CAUSE} Omar Ali/ Omar made Ali laugh.

Similar to English, Arabic change-of-state verbs express that their subject has undergone a certain change of state while its causative counterpart expresses that the subject causes a change of state in the object. However, Arabic active verbs express that their subject has done an action while its causative counterpart expresses that the subject caused the object to create the action.

Following the lexicalist causativization approach, Arabic and English change-of-

state verbs and their causative counterparts have a similar Lexical Conceptual Structure (LCS). Intransitive verb *'ʔin-kasara /break'* and its causative alternant is illustrated in the following rule:

[(x) CHANGE] ⇒ [(y) CAUSE [(x) CHANGE]]

ʔin-kasara l-zujaju ⇒ Ali kasara l-zujaja

the glass broke ⇒ Ali broke the glass

On the other hand, I assume that Arabic Active verbs have the following LCS:

Intransitive verb *'dahika/ laugh'* and its causative counterpart

[(x) DO] ⇒ [(y) CAUSE [(x) DO]]

dahika ali ⇒ ʔdhaka omar Ali

Ali laughed ⇒ Omar made Ali laugh

5.8 Arabic Intransitives' Derivational Morphology

While English tends to favor labile alternations, that is, the same verb is used in the inchoative and causative forms as explained by Piñón (2011). Arabic illustrates this property if the intransitive and causative verbs are in Form I (FaʕaLa, FaʕiLa, FaʕuLa), whether in the intransitive use or the causative use; however, some verbs depict internal vowel changes (i.e., Ablaut) on the intransitive use, that is, changing the stem vowel /i/ to /a/, or /u/ to /a/, as shown in (51).

(51) a. Hazina Ali Intransitive Form I ZERO derivation/ only Ablaut
 Ali became sad

 b. Hazana alrajul-u Ali Causative Form I ZERO derivation
 The man made Ali sad

In case of the Arabic pairs, which participate in the causative alternation, they are

morphologically marked in most uses. However, when the intransitive verb is marked, its causative counterpart is not marked, and when the causative verb is marked, the intransitive verb is not marked. This leads to the conclusion that they are in complimentary distribution, as illustrated in the following pairs:

- | | |
|--|-------------------------------------|
| (52) a. ʔin -kasar-a l-zijaj
‘the glass broke’ | Marked (change of state) Form VII |
| b. Kasar-a Ali l-zujaj
“Ali broke the glass” | Not marked (causative) Form I |
| (53) a. waqa'a Ali
“Ali fell” | Not marked (change of state) Form I |
| b. ʔ -wqa'a Ahmad Ali
“Ahmad made Ali fall” | Marked (causative) Form VI |
| (54) a. rakada Ali
“Ali ran” | Not marked (active) Form I |
| b. ʔ -rkada l-mudarib Ali
“The coach made Ali run” | Marked (causative) Form VI |

It is inferable from the examples above that a verbal template might be used to express different meanings; however, it is important to note that every template will always designate only one semantic interpretation in each use.

5.9 Detransitivation in Arabic

English transitive verbs cannot be detransitivized when a verb requires an animate, but it appears that it might not be the case in Arabic, as was explained earlier. However, I assume that detransitivation in Arabic occurs only through passivation, in which case it is characterized in decreasing the number of the verb argument.

- (55) qata'a l-rajil-u al-habl-a

“the man cut the rope”

(56) quti3a l-habl-u

“The rope was cut”

In the next chapter, the VP layer that represents the argument structure for English and Arabic intransitive verbs will be examined.

CHAPTER 6

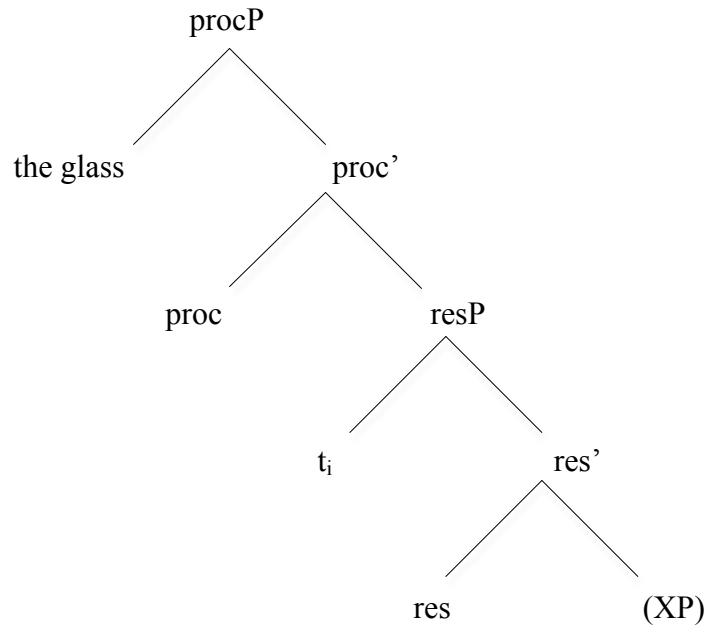
SYNTACTIC ANALYSIS OF THE CAUSATIVE ALTERNATION

In the lexical account, the causative alternation takes place at the level of the LCS, as illustrated in the previous chapter. However, in the syntactic account, the causative alternation comes about at the level of syntax. Schäfer (2009) clarified that the verbal phrase can be split into several layers of verbal projections, each of them providing a specifier to merge an argument. These verbal layers are combined by cyclic head-movement of the lowest verbal head.

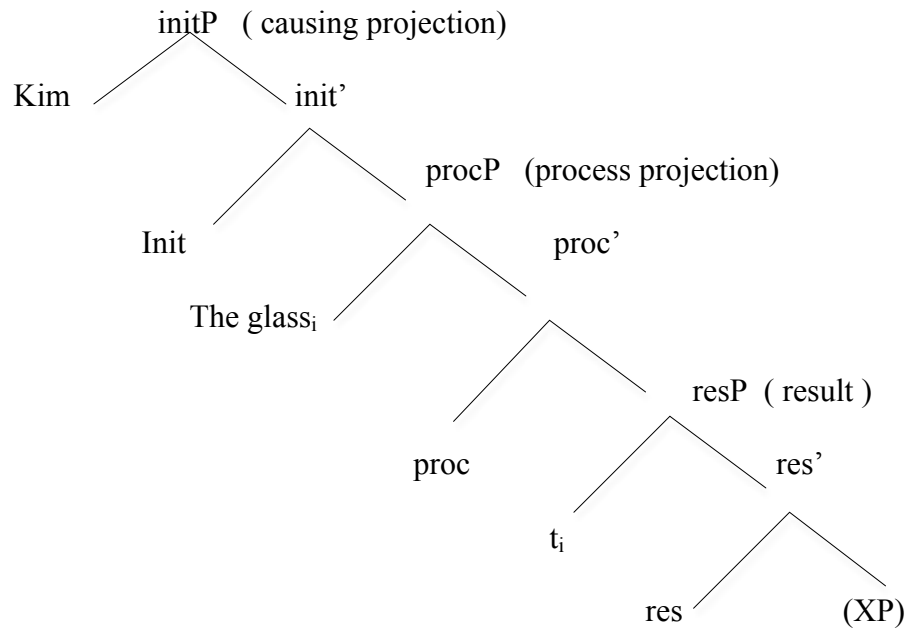
Furthermore, syntactic accounts of word formation assume that verbs with a complex event structure are syntactically decomposed into different verbal layers expressing more basic, atomic events and introducing arguments. The difference between anti-causatives and causatives results then from the presence vs. absence of a verbal layer projected by a head expressing causation and introducing the external argument.

Ramchand (2008) decomposed change-of-state verbs into the verbal layers' initiation phrase (init P), process phrase (proc P) and result phrase (resP), which correspond to the predicates cause, become, and state, respectively, as cited in Schäfer 2009:661). Ramchand (2008) assumed, when the intransitives are basic, the theme is first merged in the specifier of resP and moves afterwards to the specifier of procP. Thereby, it acquires a complex θ -role of both a resultee and an undergoer of the event, as depicted in (1). Causatives are derived in the syntax by addition of a default init-head expressing causation and introducing the external argument (the initiator) as in (2).

(1) The glass broke



(2) Kim broke the glass.

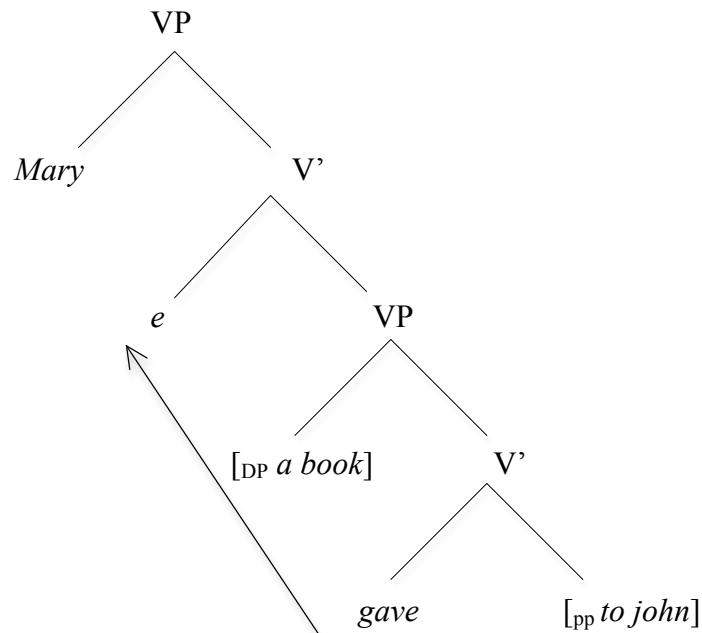


(Adopted from Ramchand 2008:46)

As for the structure in (2), Ramchand (2008) explained that the lexical accounts [(x) CHANGE] correspond with the layered procP and the resP in the syntactic account. The [(y) CAUSE [(x) CHANGE]] in the lexical accounts corresponds with the procP, the resP, along with initP, which is the additional verbal layer in the syntactic account. The presence of this additional verbal layer initP is what distinguishes the causative/transitive variant from the anti-causative/intransitive variant in the syntactic account.

6.1 VP- Shells

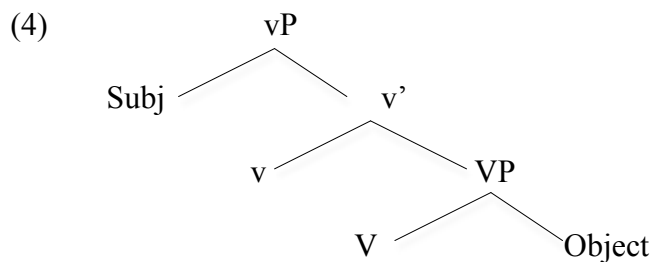
Back to Larson (1988), who first proposed the framework of the VP shells, the VP-shells are intended to account for ditransitive constructions. In Larson’s framework, each of the VP shells is introducing one of each object in ditransitive sentences, as shown in (3).



(Adopted from Blanco 2011:23)

Based on the structure in (3), which is the representation of the sentence *Mary gave a book to John*, Larson proposed that the VP construction contains two verbal shells, in which one embeds the other. The lower VP shell hosts the lexical verb *gave* as its head, which takes the indirect object as its complement and the direct object *a book* in its specifier position. The higher VP shell is generated with an empty *e* head. It hosts the subject *Mary* in its specifier position and takes the lower VP shell as its complement. However, the verb *gave* undergoes a movement to the head of the higher VP shell to assign the external theta role to the DP in its specifier, that is, *Mary*.

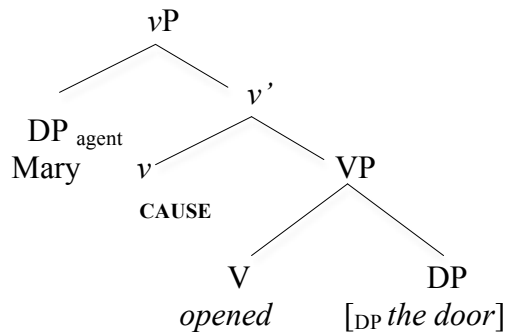
Many researchers (e.g., Rosen 1989; Hale & Keyser 1993; Harley 1995; Chomsky 1995; Pylkkänen 2002; and Butt & Ramchand 2003) utilize Larson’s framework to expand upon the verbal structure, whether in term of “inserting light verbs,” “identifying the source of theta role assignment to the external argument,” or “to show the asymmetry between external argument and internal arguments.” Whereas those researchers have variant views on the source of theta role assignment to the external argument and its head’s label (e.g. “little *v*” in Chomsky 1995, “Voice” in Kratzer 1996), they all agree on the asymmetry between the external and the internal arguments by showing a hierarchical structure in which the subject is higher than the object. This hierarchical structure is illustrated in (4).



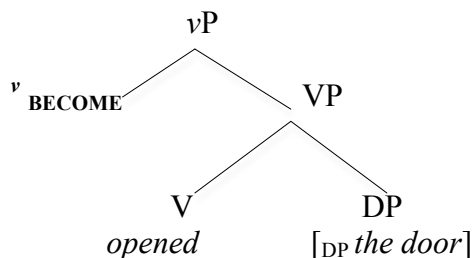
6.2 Little *v* Flavors in English and Arabic Argument Structure

Researchers such as Harley 1995, Miyagawa 1998, and Folli & Harley 2004 conducted a further investigation on the nature of little *v*. Harley (1995), for instance, argued that the little *v* head corresponds to a causative event with an external argument or to a stative one with no external argument but with a BE-head. A subsequent work by Folli & Harley (2004) proposed that different types of *v* heads indicate a different nature of events (e.g., causative, unaccusative, stative, unergative). Hence, little *v* contains different flavors: CAUSE, DO or BECOME. Blanco (2011:27) showed the different flavors of little *v* relying on Harley's (1995) analysis as depicted in the following structures:

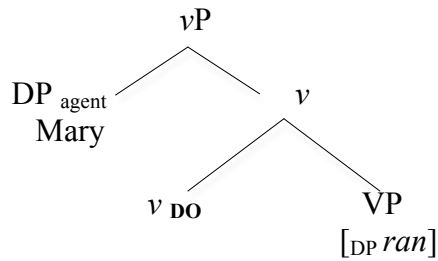
(5) a. *v*_{CAUSE} 'Mary opened the door'



b. *v*_{BECOME} 'the door opened'



c. ^vDO ‘(Mary) ran’



As mentioned earlier, each type of little *v* contains a specific event semantic content. Therefore, in (5a) ^vCAUSE head determines the causative reading of the sentence *Mary opened the door*, in (5b) ^vBECOME determines the unaccusative nature of the *The door opened*, and in (5c) the flavor of little *v*, that is, ^vDO is responsible for the unergative nature of the sentence *Mary ran*. The above evaluation conforms to Harley’s (1995) analysis. That is, the argument structure and the syntactic properties of little *v* heads are impacted by their different flavors. Furthermore, Harley (1995) argued for the projection of VoiceP that contains the external argument in its specifier.

Based on the distributed morphology framework, Marantz (1997) assumed that *v* is a “verbalizer” head, that is, the head that transforms a root into a verb. Marantz (1997) supported this claim by explicating that the root has no category and that, when it appears as a transitive verb, it is combined with a *v* head that verbalizes the root and also introduces the external argument in its Spec. An unaccusative verb would involve a *v* head that does not allow an external argument to appear in its Spec.

Arabic provides a perfect testing ground for illustrating “*v*” as a verbalizer and its different flavors. Henceforth, I will adopt Folli and Harley’s (2004) and Marantz’s (1997) frameworks by using the little *v* flavors to show the syntactic configuration for Arabic

intransitives and their causatives counterpart and by also using the verbalizer “v” that was postulated by Marantz to claim that an Arabic uncategorized root should merge with a higher head to derive a verbal template that reveals one of the little *v* flavors, that is, CAUSE, BECOME or DO.

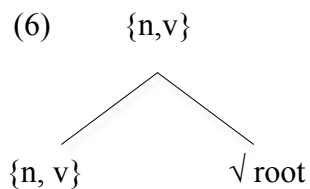
Before delving into the syntactic structure of Arabic intransitive verbs and their causative counterpart, I am going to recall the meaning of a “morpheme.” In morphology, a morpheme is a meaning-bearing unit, and when it behaves as an affix, it will contribute in changing the root’s semantic meaning to which it is applied (in this case Arabic). Danks (2011:23) explained that Arabic roots do not give rise to verbs, yet morphemes derive verbs from the roots with which they combine; hence, a verbal template will be derived in turn.

Therefore, I assume that Arabic verbal patterns (root + the morphemes that are attached) are a keystone in determining the syntactic configuration of a verb’s argument structure. In turn, little *v* is responsible to host the different meanings or “flavors” of each template that are encoded on morphemes. Hence, different semantic and syntactic configuration involves different verbal templates. For example, Arabic intransitive verbs Form I have a silent DO subunit when it refers to an active action and an abstract BECOME subunit when the verb refers to a change of state. It is important to note that those types of intransitives are not morphologically marked (zero morpheme), as mentioned in chapter 5. The intransitive verbs Forms VII and V always express a BECOME subunit, and they are depicted by *ʔ*in- and t- affixes on the Forms. Therefore, both causatives Forms II and IV contain a CAUSE meaning that is depicted on the glottal

?- and gemination on the form, yet not causative Form I (zero morpheme).

6.3 Arabic Intransitives Syntactic Derivation

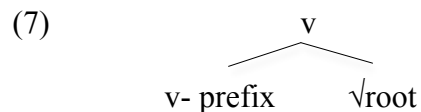
As mentioned earlier, Arabic roots are not categorized, and when they are combined with word creating morphology, the root becomes a verb or a noun (Arad, 2005:27). For this reason, roots must merge with verbal or nominal heads to become a verb or a noun; hence, failing to combine, they fail to create, as shown in (6):



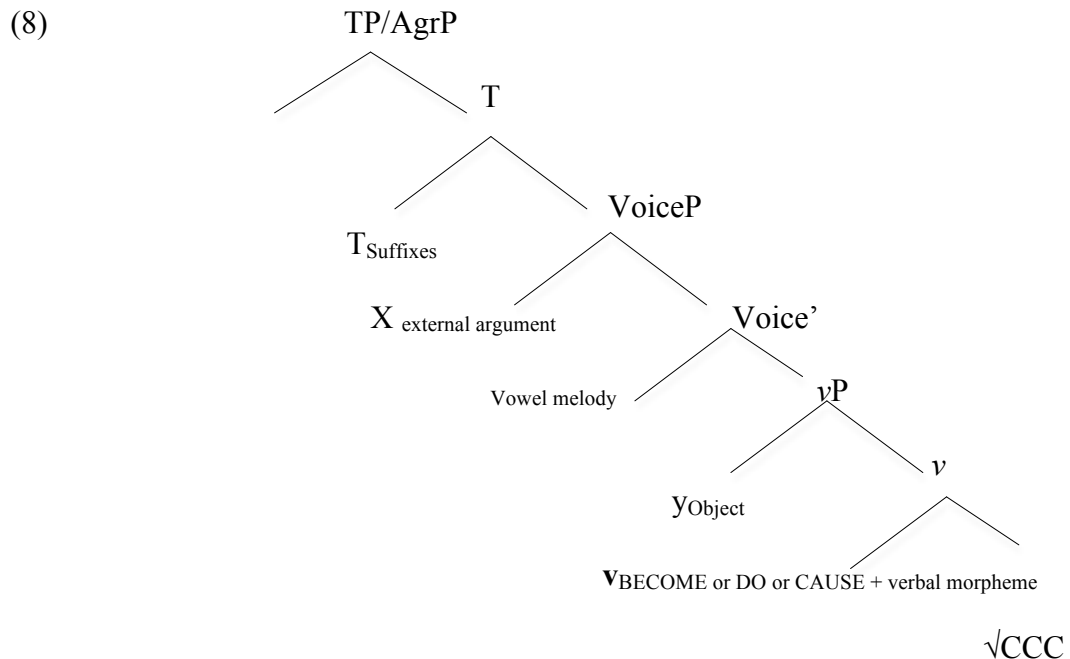
Further, Arad (2005) clarified that the three consonants root are not pronounceable on their own and they do not carry any semantic core. Roots become pronounceable and gain category feature in the environment of pattern, whether nominal or verbal.

Therefore, the pattern morpheme is responsible for converting the root to a verb or a noun and carries a specific meaning. Arad (2005:196) illustrated voice features are inserted under Voice head.

Hence, verb formation in Arabic is outlined by means of inserting the uncategorized consonantal root under the root node; (cf. Arad, 2005). The consonantal root moves to combine with the prefix (i.e., verbal morphology) to gain meaning and syntactic feature, that is, a verb, as shown in (7):



Accordingly, the verbal head “v” contains verbalizing features that convert the root to a verb, semantic content that is responsible for denoting whether an active, a change of state, or a causative meaning and a case feature (i.e., causative case). Hence, three types of verbal heads v_{ACTIVE} , $v_{CHANGE\ OF\ STATE}$ and $v_{CAUSATIVE}$ emerge. Following Folli & Harley (2004), v_{ACTIVE} is equivalent to v_{DO} , $v_{CHANGE\ OF\ STATE}$ is equivalent to v_{BECOME} , and $v_{CAUSATIVE}$ is equivalent to v_{CAUSE} . Following Arad (2005), I modified the structure in (8) to conform to Arabic verbs.



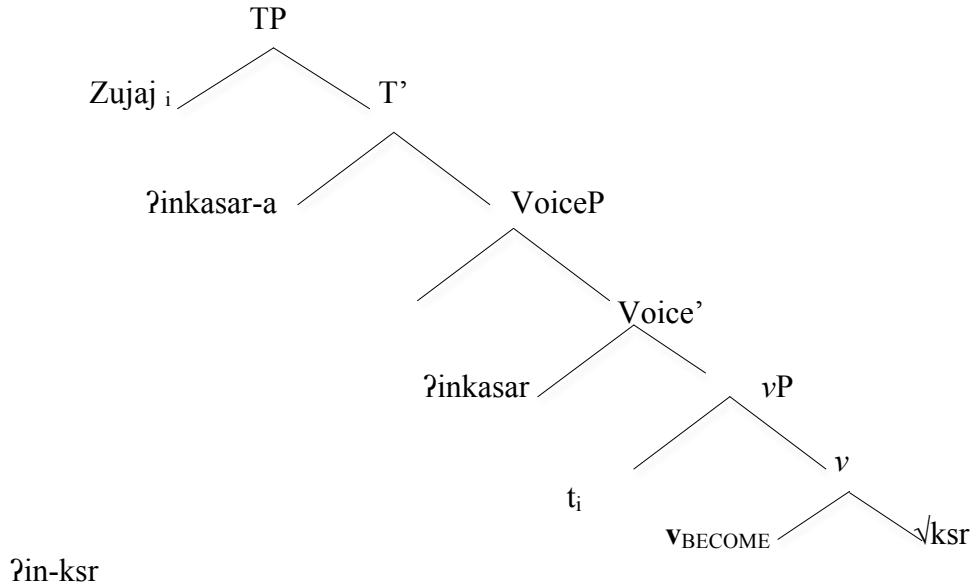
6.3.1 The Syntactic Structure of Arabic Change-of-State Verbs

Drawing on the above structure, the syntactic structure of a change of state is as follows:

(9) **ʔin-kasar-a** l-zijaj-u¹⁰

‘the glass broke’

¹⁰ In this paper I am not dealing with VSO or SVO word order in Arabic. See Ouhalla (1993) for more about Arabic verbal movement.



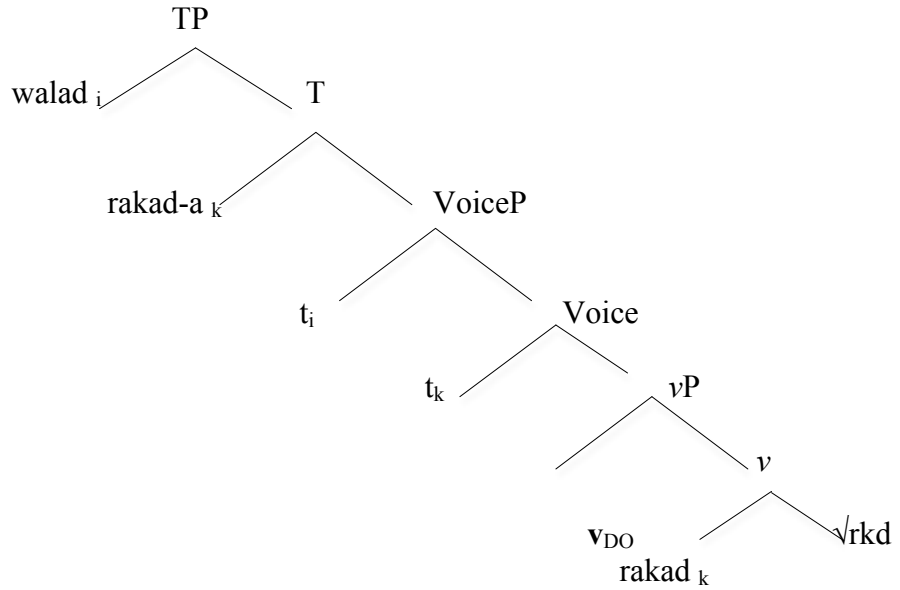
Arabic change-of-state verbs take only one argument, since this type of verb cannot check case; the case feature of T attracts the NP. The Nom NP moves to [Spec, TP] to check NOM case feature and pick up tense and agreement morphemes. However, the consonantal root needs to adjoin to a verbal head to form a verb. Hence, the root K-S-R moves to *v* head to form the complex VP and to pick up the morphemes that are responsible for deriving a verbal template that is bearing a BECOME semantic meaning as shown in (9).

6.3.2 The Syntactic Structure of Arabic Active Verb

The syntactic structure of Arabic active verbs is alike to the one in (9); however, the verbalizing head contains different semantic meaning, which indicates a v_{DO} instead of v_{BECOME} as in (9); therefore, the Arabic active structure is as shown in (10):

(10) rakad-a l-walad-u

‘the boy ran’



In the syntactic structure of the active verb in (10), the subject is inserted in [Spec, Voice]. Similarly; Nom Case is checked in [Spec, TP] so the case feature of T attracts the NP (subject) with a feature [NOM] so that the NP moves to [Spec, TP] to check out that feature. The consonantal root merges with a verbalizer head to form the intransitive verb *rakada*, then it rises up to Voice to pick up the vowel melody, and after that it moves to T to pick up any left agreement and T morphemes.

CHAPTER 7

CONCLUSION

This thesis revealed that Arabic intransitive verbs do not behave like their English counterpart. Causativization in English only applies to unaccusative verbs and not to unergatives. In contrast, Arabic unergative verbs hold a position in this process. In English, the causative and anticausative differ only in that the causative verb meaning includes an agent participant who causes the situation, whereas the anticausative verb meaning excludes a causing agent. This is only true for Arabic change-of-state verbs but not Arabic active verbs. While the causative alternant of Arabic active verbs includes an Agent participant who brought about the action that has been caused by a Causer, the anticausative verb meaning excludes a causer and keeps the Agent. Therefore, syntactically, the causative alternation phenomenon in Arabic is characterized by increasing the number of arguments of the verb. Semantically, it increases the agentivity that is characterized by an Agent and a Causer argument in the causative use of an active verb and only an Agent in causative use of change-of-state verbs. Having an Agent and a Causer in the same sentence contributes in emerging a complex argument structure; therefore, I argued for two functional heads (i.e., v) in which one hosts the Causer and the other hosts the Agent (i.e., external argument).

This thesis unveiled the similarity between Arabic active (unergative) and change-of-state (unaccusative) verbs' underlying structure in the causative use in which both of them correspond to an object. However, in the anticausative use, each one depicts a different semantic role. Another interesting finding is that Arabic change-of-state verbs

are not divided into alternating and non-alternating verbs as in English. Generally, most Arabic change-of-state verbs participate in the causative alternation, excluding denominal verbs that lack intransitive Form I. Besides, Arabic change-of-state verbs (i.e., unaccusatives in English) can be denominal, which only have a noun root or can be de-adjectival when the verbs depict colors. Arabic de-adjectival verbs, in the first place, are derived from nouns. This finding highlights another difference between Arabic and English intransitive verbs; that is, while unaccusative verbs in English are normally de-adjectival, unergative verbs are denominal, yet Arabic change-of-state verbs could be denominal as well and not only de-adjectival.

I have also illustrated the direction of derivation for the causative alternation. The Arabic intransitive verb is the basic form while its causative counterpart is derived. I supported this claim by proposing causativization and causativizability rules, which state that, if an Arabic causative verb is the basic form, then it should be able to re-causativized through causativized glottal ‘?’ or gemination. However, those rules show that causatives verbs, which are the counterpart of intransitives, fail to conform to those rules, resulting in causatives-derived forms. The other evidence is posited by examining the morphological distribution of intransitives and causatives. Since the only non-alternating intransitive verbs are the ones that depict causative Forms IV and II, then those causative forms need to be derived from intransitive Form I in the first place to replace it in the anticausative use. Thus, the given data in Chapter 5 illustrates that causatives Forms II and IV are mainly derived from intransitives Form I.

While in English both versions of the alternation are morphologically identical,

Arabic uses particular morphological devices or internal vowel changes “Ablaut” to differentiate between the two alternates. In this paper, I assumed that Arabic morphological patterns have a big impact on constructing the verb’s argument structure. Morphological marking has an effect on the lexical aspectual interpretation of intransitive and causative verbs, and that in turn affects the syntactic configuration of the verb. Furthermore, having a semantic morpheme in little *v* implies the relationship between the lexicon, morphology, and syntax. Therefore, I assumed that these three components should be unified when explaining the argument structure of any lexical item.

Finally, I suggested that such discrepancy between Arabic and English causative alternation results in part from lexical idiosyncrasies in each language. I believe that verbs in each language carry certain features, which lead to different syntactic computation. However, further research is needed into the syntactic structure of Arabic causatives. I have proposed that a Causer and an Agent exist at the same time in the Arabic causative sentence. Therefore, more research is necessary to investigate the suitable syntactic position of a Causer and an Agent arguments that occur in the same syntactic tree.

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