

Morphologically-marked Transitivity Alternations in Makkan Arabic:

Morphology as a Reflex of Argument Structure

By

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## Abstract

This dissertation explores the relation between morphology and the suppression of the external argument in transitivity alternations in Makkan Arabic (MA). It investigates three morphologically-marked intransitive constructions that have transitive alternants. The first construction  $\lambda an$ - $v$  encodes passive, anticausative, and psych structures all of which are unaccusative structures that lack syntactically-merged external arguments. The distinction between different  $\lambda an$ - structures is based on the pattern of compatibility of these structures with *by itself*, *from*-phrases, instrumental PPs, and Agent-oriented adjuncts. The second construction  $\lambda at$ - $v$  encodes reflexive and reciprocal structures, both of which are shown to be unergative structures with syntactically-merged external arguments. The third construction discussed in the dissertation is the unaccusative participles. On a par with  $\lambda an$ - constructions, unaccusative participles involve three subclasses: passive participles, decausative participles and psych participles.

In the thesis I argue that  $\lambda at$ - constructions are structures in which the internal argument is not introduced in its canonical position as a complement of the root; rather it bundles with the external argument to be introduced into one and the same position [Spec,  $v$ P]. In contrast,  $\lambda an$ - structures and unaccusative participles lack syntactically-merged external arguments.

My account for morphologically-marked agentless structures is couched within the framework of the theory of Distributed Morphology (DM) in combination with the Minimalist approach to formal syntax. I assume different root types and different flavors of the functional head  $v$ . Building on Reinhart (2000) and Haiden's (2005) Feature Theory of theta structure, I develop a theory of argument structure in which both root type and the functional head  $v$  take part in determining the argument structure for a given predicate, an approach that mediates the projectionist and constructionist approaches to argument structure. I attribute the absence of external arguments in  $\lambda an$ -structures and unaccusative participles to a voice feature [ $\pm$ active] on the verbal functional head  $v$  and the participle functional head *ptcpl*. A functional head [+active] projects a specifier in which an external argument is licensed/introduced and hence derives transitive structures. In contrast, a functional head [-active] does not project a specifier and thus derives unaccusative structures.  $\lambda an$ - spells out  $v_{[-\text{active}]}$  while unaccusative participles spell out *ptcpl*<sub>[-active]</sub>. Given this, I conclude that morphologically-marked transitive/unaccusative alternations boil down to a voice feature [ $\pm$ active].

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## Abbreviations and Transcription Conventions

### List of abbreviations

The following list includes the abbreviations used in glosses throughout the study:

1, 2 and 3	First, Second and Third person, respectively.
SG, DU, and PL	Singular, Dual and Plural, respectively.
F and M	Feminine and Masculine, respectively.
DEF	Definite Article
NOM	Nominative case marker
ACC	Accusative case marker
PERF	Perfective Form
IMPERF	Imperfective Form
FUT	Future tense affix
PROG	Progressive aspect affix
POSS	Possessive morpheme
Neg	Negation particle
AP	Active Participle
UP	Unaccusative Participle

### Notes on transcription

Following are the phonetic symbols used in transcribing the data in the present study. All other symbols not mentioned in this table are standard IPA symbols.

Symbol	Phonetic description
ʔ	Voiceless glottal stop
q	Voiceless uvular plosive
g	Voiced velar stop
š	Voiceless postalveolar fricative
ʕ	Voiced pharyngeal fricative
ʒ	Voiced postalveolar fricative
ħ	Voiceless pharyngeal fricative
x	Voiceless velar fricative
ɣ	Voiced velar fricative
ʈ	Voiceless alveolar plosive
ʂ	Voiceless alveolar fricative
ɖ	Voiced velarized alveolar plosive
ʐ	Voiced pharyngealized alveolar sibilant
ð	Voiced interdental fricative

- Geminate consonants: CC

- Short vowels: a/ u/ i

- Long vowels: a: / u:/ i:

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# Chapter 1

## Introduction

### 1.1 Introduction

Arabic is a Semitic language spoken in the Middle East and North Africa<sup>1</sup>. One prominent feature of Arabic is its rich and complex morphology, which plays a role in different syntactic constructions. For instance, the intransitive versions of predicates that undergo transitivity alternations are morphologically marked, whereas intransitive predicates that lack transitive counterparts bear no special morphological marking. Moreover, it is typically the agent (the doer of the action) that is suppressed in the marked intransitive version. This leads to the core of my research investigation: the relationship between morphology and suppression of the agents in transitivity alternations. In what follows I will refer to agentless intransitive predicates as unaccusative.

Consider the examples from Makkan Arabic (henceforth MA) in (1) and (2):

1. a. al-ḥara:mi gatal al-ḥa:ris (Active)  
DEF-thief kill. PERF.3SG.M DEF-guard  
'The thief killed the guard'

---

<sup>1</sup> When *Arabic* is used in this dissertation without any specification, it refers to Arabic language in general including Standard Arabic and Makkan Arabic.



the templatic pattern which, together with the consonantal root, fits a fixed template: *ka:sir* ‘break’ (Ca:CaC) in (2a) and *maksu:r* ‘broken’ (maCCu:C) in (2b).

The structure in (1b) is a passive structure in MA, and it is one of a group of unaccusative structures marked with *ʔan-* in MA (see §1.2 below and Chapter 3). *ʔan-* structures are generally referred to as *al-muṭa:wafa* ‘amenable structures’<sup>4</sup> in Arabic literature. The structure in (1b) is verbal, and thus can be inflected along the perfective/imperfective paradigm (see 3) while the one in (2) cannot, as shown in (4b) and (4c). This is why (2) is referred to as a participle structure.

3. a. al-ḥa:ris ʔangatal (Perfective/Past)

DEF-guard was killed

‘The guard was killed’

b. al-ḥa:ris yingatil (Imperfective/Present)

DEF-guard is killed. IMPERF.3SG.M

‘The guard is being killed’

---

<sup>4</sup> Fassi Fehri (1999) refers to these constructions as anticausative or inchoative structures.

c. al-ħa:ris ħa-yingatil (Imperfective/Future)

DEF-guard will-be killed. IMPERF.3SG.M

‘The guard will be killed’

4. a. al-ba:b maksu:r

DEF-door break.UP.3SG.M

‘The door is broken’

b. \*al-ba:b yimaksu:r

DEF-door broken. IMPERF.UP.3SG.M

Intended: ‘The door is broken’

c. \*al-ba:b ħa-yimaksu:r

DEF-door will-broken. IMPERF.UP.3SG.M

Intended: ‘The door will be broken’

The structure in (4a) cannot be said to indicate particular time but can be specified for particular tense by adding an adverb or a copula. That is, to indicate a tense other than the present<sup>5</sup> in participle structures, a copula is required as shown in (5):

5. a. al-ba:b maksu:r daħi:n (Present)

DEF-door broken.UP.3SG.M now

‘The door is broken now’

b. kan al-ba:b maksu:r ʔams (Past)

was DEF-door broken.UP.3SG.M yesterday

‘The door was broken yesterday’

c. ħa-yku:n al-ba:b maksu:r (Future)

will-be.IMPERF.3SG.M DEF-door broken.UP.3SG.M

‘The door will be broken’

---

<sup>5</sup> No copula appears with participle structures in the present tense. The copula appears only in participle structures in the past tense in Arabic (see Chapter 2 for a detailed discussion).

No specific morphology is required with intransitive structures that lack transitive counterparts as shown in the following examples:

6. a. (\*ʔat) na:m            aṭ-ṭifil            (Unergative)

sleep.PERF.3SG.M    DEF-child

‘The child slept’

b. (\*ʔat) wiṣil            al-bari:d            (Unaccusative)

arrive.PERF.3SG.M    DEF-mail

‘The mail arrived’

There is no corresponding *ʔan-* structure or unaccusative participle for the examples in (6). However, the causative forms of *na:m* ‘slept’ and *wiṣil* ‘arrived’ which are *nay.yam* ‘cause to sleep’ and *waṣṣal* ‘deliver’ do have morphologically marked intransitive alternants, namely *ʔan-* structures and unaccusative participle structures, as shown in (7) and (8) below:

7. a.    nayyam                                    ar-riḡza:l    aṭ-ṭifil            (Transitive Structure)

cause to sleep.PERF.3SG.M    DEF-man    DEF-child

‘The man made the child sleep’

b. ?atnawwam at-ṭifil (Unaccusative Verbal Structure)

sleep.PERF.3SG.M DEF-child

‘The child was caused to sleep’

d. at-ṭifil minawwam. (Unaccusative Participle Structure)

DEF-child slept.UP.3SG.M

‘The child was caused to sleep’

8. a. waṣṣal ar-riḏa:l al-bari:d (Transitive Structure)

deliver.PERF.3SG.M DEF-man DEF-mail

‘The man delivered the mail’

b. ?atwaṣṣal al-bari:d (Unaccusative Verbal Structure)

deliver.PERF.3SG.M DEF-mail

‘The mail was delivered’

c. al-bari:d muwaṣṣal (Unaccusative Participle Structure)

DEF-mail deliver.UP.3SG.M

‘The mail was/has been delivered’

This leads to the conclusion that the morphological marking is correlated with a suppressed external argument in Arabic.

This chapter is organized as follows: The goal of the study is stated in §1.2. §1.3 introduces MA, the variety of Arabic under study, and highlights its basic properties. Some grammatical aspects of MA which are of relevance to the topic of the dissertation are discussed in §1.4. These include the basic properties of verbs, nouns, and adjectives<sup>6</sup>. In §1.5 I discuss the significance of my study. §1.6 lays out the organization of the dissertation. Finally, I provide a summary of the chapter in §1.7.

## **1.2 The goal of this study**

Transitivity alternations and their morphological marking have been subject to a considerable body of research (cf. Levin and Rappaport Hovav 1995; Embick 2004a; Alexiadou et al. 2006; 2014; 2015). However, no study has investigated such alternations and the relevant morphological marking in Arabic, a nonconcatenative language with distinctive root-and-pattern morphology. Moreover, no studies have explored the syncretism between morphologically marked intransitive alternants that exhibit different syntactic behavior. Thus, the objective of this study is to investigate the relation between morphology and the suppression of the external argument in transitivity alternations in Arabic and to explore what the morphological marking reveals about syntactic structure and semantic interpretation.

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<sup>6</sup> The grammatical aspects like tense/aspect and case are to be discussed within the theoretical framework in the following chapter.

In this thesis, I focus on three main constructions with transitive alternants: (1) *ʔan*-structures that encode passive, anticausative, and (middle) psych constructions (2) *ʔat*-structures that encode reflexives and reciprocals, and (3) unaccusative participle structures, as described below. These constructions will be discussed as they appear in MA, specifically, sedentary MA, the variety of Arabic spoken in Western Saudi Arabia (Rafeç 1981). In fact, they are used in many modern vernaculars of Arabic but with different variations. Where appropriate, I will compare these constructions in MA with their counterparts in Standard Arabic (henceforth SA).

### 1.2.1 *ʔan*-structures

*ʔan*-structures encompass passive, anticausative, and (middle) psych structures as shown in the following examples and discussed in detail in Chapter 3. In all three constructions, the morpheme *ʔan*- exhibits free variation with *ʔat*- and signifies absence of an external argument in a given structure. Thus, *ʔan*- structures are unaccusative (agentless) constructions.

9. a. al-ħa:ris ʔan/ʔatgatal (Passive)

DEF-guard was killed.3SG.M

'The guard was killed'

b. al-fusta:n ʔan/ʔatšagg (Anticausative)

DEF-dress tore.3SG.M

'The dress tore'

c. al-walad     $\text{ʔan/ʔatgahar}$                     (Psych)

DEF-boy    feel upset.PERF.3SG.M

'The boy felt upset'

SA uses *ʔan-* only to encode anticausative structures, and has a distinct passive construction called the apophonic passive that does not involve *ʔan-*. In MA, as in many modern varieties of Arabic, the apophonic passive of SA is no longer used. It is possible that in MA, *ʔan-* structures have been extended to encode passive in compensation for the absence of the apophonic passive.

### 1.2.2 *ʔat-* structures that encode reflexives and reciprocals

These are intransitive structures that are marked with the morpheme *ʔat-* that is distinct from the unaccusative morpheme *ʔan-/ʔat-*. Despite the fact that the two sets of structures (*ʔan-/ʔat-* structures and *ʔat-* structures) seem to be syncretic, I will show that *ʔan-/ʔat-* structures, namely, passive, anticausative and (middle) psych constructions, are unaccusative structures that lack syntactically-merged external arguments while *ʔat-* structures, namely, reflexives and reciprocals (see 10), are unergative constructions with syntactically merged external arguments.

10. a. al-walad     $\text{ʔatrawwaš}$                     (Reflexive)

DEF-boy    wash.PERF.3SG.M

'The boy washed himself/ The boy had a shower'

b. al-awla:d      ʔatʃa:faħ-u      (Reciprocal)

DEF-boys      shake hand with.PERF.3-PL

'The boys shook hands with each other '

While the focus of the present study is on morphologically-marked agentless structures, a discussion of unergative *ʔat-* structures is necessary since they seem to bear the same morphology as *ʔan-* structures and, hence, can be easily mistaken as unaccusative structures. Shared unaccusative/reflexive morphology is attested in Semitic, Romance, German, Russian, Greek, and Armenian among many other unrelated languages (Doron 2003a). The shared morphology has led some researchers to argue that reflexives and reciprocals are unaccusative structures (c.f. Marantz 1984; Kayne 1988; Baker 1996). However, other researchers insist that reflexives and reciprocals are unergative structures (Chierchia 2004; Reinhart 1996; 2000; Reinhart & Siloni 2004; 2005). Given this, it is crucial to provide an analysis of reflexives and reciprocals and determine their syntactic properties in MA.

### 1.2.3 The unaccusative participle structures

As is the case with *ʔan-* structures, the participle structures investigated in this study are agentless structures that exhibit transitivity alternations with their corresponding active participle structures.

11. a. al-walad    kasar      al-ba:b      (Active Participle)

DEF-boy    break.PERF.3SG.M    DEF-door

'The boy broke the door'

b. al-ba:b maksu:r (Unaccusative Participle)

DEF-door broken.UP.3SG.M

‘The door is /has been broken’

The class of unaccusative participles encompasses, I assume, the subclasses of passive, decausative, and psych participles, a syncretism that parallels the one found in *ʔan-* structures, as shown in (12) below (see Chapter 5 for a detailed discussion). Thus, participles are crucial to the discussion of morphologically-marked alternations in Arabic.

12. a. al-walad magtu:l (Passive participle)

DEF-boy killed.UP.3SG.M

‘The boy is killed’

b. al-ba:b maksu:r (Decausative participle)

DEF-door broken.UP.3SG.M

‘The door is broken’

c. al-walad mabšu:t (Psych participle)

DEF-boy satisfied/happy.UP.3SG.M

‘The boy is happy’

### 1.3 Makkan Arabic (MA)

Arabic is a Semitic language spoken in the Middle-East and North Africa. The present study focusses on West Arabian Arabic; specifically, sedentary Makkan Arabic (MA), the variety of Arabic spoken in Western Saudi Arabia (Rafeç 1981). MA is one of the modern vernaculars of Arabic<sup>7</sup>. As is the case with SA, MA has a rich templatic morphology. Nouns are marked for number (singular, dual, or plural), gender (feminine or masculine), and definiteness (definite or indefinite). Verbs are morphologically marked as perfective or imperfective. They are also marked for person (1P, 2P or 3P), number (singular or plural), and gender. Verbs do not inflect for dual number in MA. As is the case with many modern vernaculars of Arabic, MA has done away with many features of SA, such as case marking and inflections for plural feminine forms.

In the field of Arabic syntax, it is well-known that both VSO and SVO word orders are fully acceptable (Mohammad 1990; Fassi-Fehri 1993; Aoun et al 1994; Aoun & Benmamoun 1999; Benmamoun 2000; Shlonsky 2000; Harbert & Bahloul 2002; Soltan 2007; Aoun et al 2010; Alotaibi 2013; among others). MA is no exception in this regard. The two common word orders in basic sentences are VSO and SVO. All other word orders are possible but represent more complex structures such as clefting, for example. While some linguists believe that the basic word order in Modern Arabic is VSO (c.f. Green and Manning 2010), others assume that SVO is the underlying

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<sup>7</sup> Although it has been argued that SA has no native speakers anymore, I maintain that SA is a basic component of any community in the Arab world. Exposure to SA might be subject to individual differences but the ultimate fact is that all the Arab world is diglossic with SA and the local vernacular (see Altoma 1969; Zughoul 1980; Bassiouney 2009). Code-switching between SA and MA happens on a daily basis in the Makkan society (and in the speech of Makkans as young as 3-4 years old).

word order Ouhalla (1999), and still others argue that Arabic is a non-configurational language with free word order (c.f. Al-Momani 2010). Further research is needed to determine which account (if any) applies to MA. In this dissertation I am agnostic with regard to the basic word order and all the included data will be presented as it appears in natural contexts. On the other hand, theoretical assumptions will be discussed and justified for both SVO and VSO orders (see Chapter 2). Then, for the sake of consistency, I will proceed with the SVO order to represent the syntactic derivations of the structures under study.

An important feature of Arabic and one that is relevant to the discussion in this study is that Arabic is a nonconcatenative language with root-and-pattern morphology. Words are derived with consonantal roots by different intercalations, called templates, of CV skeletal and vowel sequences. Roots are semantic abstractions that consist basically of three discontinuous consonants in a particular order. Actual words are derived by interlocking the consonantal roots with templatic patterns. Patterns are bound, discontinuous morphemes that consist of two vowels and slots for the consonants of the root (called the radicals). Patterns, either alone or in combination with derivational affixes, interconnect with the roots to form actual words. While roots express the semantic component, patterns provide the grammatical component of the morphemes because they signify grammatical or language-internal information. That is, they distinguish the different word classes, such as verbs<sup>8</sup>, nouns, and adjectives. They can even signal very specific information about subclasses of these categories (see Holes 2004; Ryding 2005, see also McCarthy 1981; Bat-El 1989; Aronoff 1994; Doron 2003a/b for accounts of root-pattern morphology).

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<sup>8</sup> Whereas there are plenty of templates which derive nouns, the verbal system is extremely limited.

As an example of the root-pattern system in Arabic, consider the root *k.t.b* that has to do with writing. This root can be mapped to different templatic patterns to derive different words as shown in the following table (cf. Ratcliffe 1998; Gadalla 2000; Holes 2004; Ryding 2005 for detailed discussion).

**Table 1: Root-pattern system in Arabic**

<b>Root</b>	<b>Templatic pattern</b>	<b>Word</b>	<b>Meaning</b>
k.t.b	CaCaC	katab	wrote
	CuCiC	kutib	was written
	Ca:CaC	ka:tab	corresponded
	CiCa:C	kita:b	book
	Ca:CiC	ka:tib	writer
	maC.CaC	maktab	desk/office
	maC.Cu:C	maktu:b	written

The root-pattern derivational morphology is not exclusive to Arabic but is a typical feature of Semitic languages in general. Nonetheless, its productivity is subject to difference among Semitic languages. According to Ryding (2005: 46) “In Arabic, this root-pattern process has evolved extensively and very productively in order to cover a vast array of meanings associated with each

semantic field (such as “writing”). Though the template system is in principle the same in all the Semitic languages, the actual forms vary from language to language (cf. Ratcliffe 1998; Amberber 2000; Kiraz 2001; Arad 2003; Holes 2004; Doron 2003b; 2013, among others). In what follows, I discuss aspects of MA which are of relevance to the topic of the dissertation.

#### **1.4 The general properties of verbs, nouns, and adjectives in MA**

In this section I outline the characteristics of the main lexical categories in MA, namely, verbs, nouns and adjectives.

##### **1.4.1 Verbal properties**

Verbs are derived by mapping the root to a verbal template in Arabic<sup>9</sup>. The main verbal templates of interest in the present study are the simple template, CaCaC, the causative/intensive template, CaCCaC and the symmetric template Ca:CaC (see Ryding 2005 for a detailed discussion of the different templates in Arabic). The simple template is the most common template in Arabic. Roots differ in their compatibility with the different verbal templates. While some roots may map to any of the three verbal templates, others exhibit a more restricted pattern (see table 2).

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<sup>9</sup> In line with the theory of Distributed Morphology (DM) adopted in this thesis I assume that these templates exist in the verbalizing head, little *v* (see Chapter 3).

**Table 2: Compatibility of different roots with the different verbal templates**

<b>Root</b>	<b>Simple template CaCaC</b>	<b>Causative/intensive template CaCCaC</b>	<b>Symmetric template Ca:CaC</b>
g.t.l	gatal ‘killed’	gattal ‘killed extensively’	ga:tal ‘fought with’
ʒ.l.s	ʒalas ‘sat’	ʒallas ‘seated someone’	ʒa:las ‘visited with’
g.h.r	gahar ‘upset’	NA	NA
n.y.m	na:m ‘slept’	nayyam ‘made someone sleep’	NA
ʕ.t.r	NA	ʕaṭṭar ‘sprayed perfume on someone/something’	NA
r.w.š	NA	rawwaš ‘washed someone/something’	NA
š.f.h	šafaḥ ‘forgave’	NA	ša:faḥ ‘shook hands with’
ʕ.n.g	NA	NA	ʕa:nag ‘hugged’

Mapping the root to the template, CaCCaC, yields either a causative or an intensive reading, hence I refer to this template as causative/intensive. Roots that encode intransitive verbs when

mapped to the simple verbal template, always yield a causative reading when mapped to the causative/intensive template<sup>10</sup>(see table 3).

**Table 3: Causative reading of the verbal template CaCCaC**

Root	Simple verbal template	Valence	Causative/Intensive verbal template	Valence
n.y.m	na:m ‘slept’	intransitive (unergative)	nayyam ‘cause to sleep’	transitive
x.r.ʒ	xaraʒ ‘exit, went out’		xarraʒ ‘take out’	
ḏ.h.k	ḏihik ‘laughed’		ḏaḥḥak ‘made someone laugh/amused’	
ʒ.l.s	ʒalas ‘sat’		ʒallas ‘seated someone’	
w.ʃ.l	wiʃil ‘arrived’	intransitive (unaccusative)	waʃʃal ‘drop off/connect’	

On the other hand, roots that encode transitive verbs when mapped to the simple verbal template do not exhibit a uniform pattern with the causative/intensive template as shown in the following table:

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<sup>10</sup> While intensity and causation are encoded by the same template in Arabic, they are encoded by two distinct templates in Hebrew, namely, *CiCCeC* and *hiCCiC*, respectively (see Doron 2003a/b).

**Table 4: Causative/intensive reading of the verbal template CaCCaC**

<b>Root</b>	<b>Simple verbal template</b>	<b>Valence</b>	<b>Causative/Intensive verbal template</b>	<b>Valence</b>
g.t.l	gatal ‘killed’	transitive	gattal ‘killed intensively’	transitive
k.s.r	kasar ‘broke’		kassar ‘broke intensively’	(intensive)
ʔ.k.l	ʔakal ‘ate’		ʔakkal ‘feed’	ditransitive  (causative)
š.r.b	širib ‘drank’		šarrab ‘gave drink’	
d.r.s	daras ‘learned/ studied’		drras ‘taught’	

The first two roots in table (4) indicate intensity/recursion of the event/action expressed by the verb when mapped to the causative/intensive template while the rest of the roots have a causative reading when mapped to the same template<sup>11</sup>. As is the case with the roots in table (3) causation is associated with a change in the verb’s valence. While causation changes simple intransitive verbs into transitive verbs in table (3), it changes simple transitive verbs into ditransitive ones in table (4).

Roots that map solely to the causative/intensive template and that are incompatible with the simple (and symmetric) template convey causative rather than intensive meaning. Such roots are confined in their semantics to the field of grooming and body care (see table 5). I refer to such

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<sup>11</sup> The basis of the difference between the resulting intensive vs. causative readings of these roots could be attributed to the semantics of the root. Such details are beyond the scope of the present study and await further research.

roots as inherently-reflexive roots (see Chapter 3 for detailed discussion of root types in general and Chapter 4 for discussion of inherently-reflexive roots in particular).

**Table 5: Causative reading of inherently-reflexive roots**

<b>Root</b>	<b>Simple verbal template</b>	<b>Causative/Intensive verbal template</b>	<b>Valence</b>
ʕ.ʔ.r	NA	ʕaʕʕar ‘sprayed perfume on someone/ something’	transitive
r.w.š	NA	rawwaš ‘washed someone/something’	

Having discussed the three main verbal templates of interest in the present study, I now lay out the general properties of verbs in MA.

#### **1.4.1.1 Inflection**

A major distinctive property of verbs is that they indicate tense. Arabic verbs occur in two morphological forms, namely, perfective and imperfective. The perfective form is exclusively suffixal, and it occurs almost exclusively in the context of past tense sentences while the imperfective form is both prefixal and suffixal (circumfixal in Hallman’s (2015) term), and it has

a wider distribution (see Chapter 2). The perfective/imperfective distinction has received several analyses as indicators of tense, aspect, and/or agreement, and it remains a topic of great controversy (see Chapter 2 for a discussion of the perfective/imperfective inflection).

**Table 6: The perfective/imperfective paradigm for *katab* ‘write’ in MA**

Root	Person	Number	Gender	Perf	Meaning	Imperf	Meaning
k.t.b ‘write’	1	SG	M	katab-t	‘I wrote’	ʔaktub	‘I write’
			F				
		PL	M	katab-na	‘we wrote’	niktub	‘we write’
			F				
	2	SG	M	katab-t	‘you wrote’	tiktub	‘you write’
			F	katab-ti		tiktubi	
		PL	M	katab-tu		tiktubu	
			F				
	3	SG	M	katab	‘he wrote’	yiktub	‘he writes’
			F	katab-at	‘she wrote’	tiktub	‘she writes’
		PL	M	katab-u	‘they wrote’	yiktubu	‘they write’
			F				

It is worth stating here that the citation form of the verb in Arabic is not an infinitive but a finite third person singular perfective form. This form, according to Hallman (2015), is the unmarked form; thus, all the data in the present study are basically presented in this form, unless different forms are required to signify particular grammatical aspects.

Another property of verbs in MA is compatibility with the prefixes *bi-* and *ħa-*. Both prefixes attach to the imperfective form. The prefix *b(i-)*<sup>12</sup> indicates the progressive aspect whereas *ħa-* indicates the future:

13. a. al-walad bi-yiktub al-wa:ʒib  
 DEF-boy PROG-write.IMPERF.3SG.M DEF-assignment  
 ‘The boy is writing the assignment’

b. al-walad ħa-yiktub al-wa:ʒib  
 DEF-boy FUT-write.IMPERF.3SG.M DEF-assignment  
 ‘The boy will write the assignment’

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<sup>12</sup> This prefix appears as *ba-* when the verb’s external argument is first person singular:

(i) ba-ʔaktub al-wa:ʒib  
 PROG-write.IMPERF.1SG DEF-assignment  
 ‘I am writing the assignment’

#### 1.4.1.2 Modification by external-argument-related adjuncts

In Arabic, as is the case in many other languages, verbs but not nominals are compatible with event-related modifiers such as Agent-oriented adverbs, instrumental PPs, *from*-phrases (causer PPs), and locative modifiers as shown in the following examples.

14. sakk                      aš-šubba:k      bisurʕa  
close.PERF.3SG.M   DEF-window   quickly

‘He quickly closed the window’

15. gafal                      al-ba:b      bi-l-mufta:h  
lock.PERF.3SG.M   DEF-door   with-DEF-key

‘He locked the door with the key’

16. al-ba:b      ʔankasar      min      al-hawa  
DEF-door   broke.3SG.M   from   DEF-wind

‘The door broke from the wind’

17. al-ħabil      marbu:t              fi      š-šubba:k  
DEF-robe   tied.UP.3SG.M   in   DEF-window

‘The rope is tied to the window’

### 1.4.1.3 Negation

There are two major negation particles in MA, *ma:* and *mu:*. Verbs are negated with the particle *ma:* and are incompatible with *mu:* (*mu:* negates nominal structures in MA, see §1.4.2.7 and §1.4.3.3).

18. al-walad ma: na:m  
DEF-boy not sleep.PERF.3SG.M  
'The boy did not sleep'

19. \*al-walad mu: na:m  
DEF-boy not sleep.PERF.3SG.M  
INTENDED: 'The boy did not sleep'

### 1.4.2 Nominal properties

One basic characteristic of nominals is the lack of any time reference. The major classification of parts of speech adopted by traditional Arabic grammarians is verbs, nominals, and prepositions, where nominals encompass nouns, adjectives and adverbs (Sibawayh 1977). This classification is not agreed upon by contemporary Arab grammarians who treat adjectives as a category on their own (c.f. Maash 2009; Hassan 1994). I will occasionally refer to nouns and adjectives together as nominals to specify properties shared by both classes. In doing so, I will be concerned with basic, underived nominals. By this, I mean nouns and adjectives that are not derived from verbal structures (see Holes 2004; Ryding 2005 for a detailed discussion of such nominals). In this section

I outline the properties of nouns as a category distinct from adjectives which are discussed in the following section.

#### **1.4.2.1 Number**

Number is an important property of nouns in Arabic (Holes 2004; Ryding 2005; Abu-Chacra 2007). In MA, nouns inflect for singular, dual, and plural number. While the dual number has disappeared from the verbal agreement system in MA, it is still present, though restricted, with nouns (see table 7).

#### **1.4.2.2 Gender**

Every Arabic noun is specified for a particular gender. For example, the noun *kita:b* ‘book’ is masculine while the noun *yad* ‘hand’ is feminine. The gender category into which a noun that denotes a non-human referent falls is semantically arbitrary (Ryding 2005) and is assigned by convention (Holes 2004)<sup>13</sup>. However, this is not the case with nouns referring to human beings, e.g. nouns denoting professions, as they have both masculine and feminine forms. For this group, the masculine form is considered the basic, simplest form from which the feminine form is encoded by the addition of the feminine suffix *-at* (or *-a* in pause form) (see table 7).

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<sup>13</sup> According to Holes (2004), the same system of gender assignment applies in all the dialects of Arabic but with some individual differences in the category of nouns that are feminine by convention.

**Table 7: (Human)-noun inflections in MA**

<b>Noun</b>	<b>Number</b>	<b>Gender</b>	<b>Form</b>	<b>Agreement</b>
malik 'king'	SG	M	malik	al-malik wişil DEF-king arrive.PERF.3SG.M 'The king arrived'
		F	malik-a	al-malika wişl-at DEF-queen arrive.PERF.3SG-F 'The queen arrived'
	DU	M	malik-en	al-malik-en wişl-u DEF-king-DU arrive.PERF.3-PL.M 'The two kings arrived'
		F	malik-at-en	al-malik-at-en wişl-u DEF-queen-DU arrive.PERF.3-PL.M 'The two queens arrived'
	PL	M	mulu:k	al-mulu:k wişl-u DEF-kings arrive.PERF.3-PL.M 'the kings arrived'
		F	malik-a:t	al-malika:t wişl-u DEF-queens arrive.PERF.3-PL.M 'the queens arrived'

The categories of gender and humanness interact such that nouns referring to humans have grammatical gender (distinct feminine and masculine forms that conform with the natural (biological) gender of the referent (see table 7)) whereas nouns referring to non-human entities carry semantically arbitrary gender (see table 8). For the former group (nouns referring to humans), both the feminine and masculine non-singular nouns trigger masculine plural agreement suffix on the verb as shown by the examples in table (7).

**Table 8: (Non-human/inanimate)-noun inflections in MA**

<b>Noun</b>	<b>Number</b>	<b>Gender</b>	<b>Form</b>	<b>Agreement</b>
kita:b 'book'	SG	M	kita:b	al-kita:b   ʔatba:ʕ  DEF-book   sold.3SG.M  'the book was sold'
	DU		kita:ben	al-kita:b-en   ʔatba:ʕ-at  DEF-book-DU   sold.3SG-F  'the two books were sold'
	PL		kutub	al-kutub   ʔatba:ʕ-at  DEF-books   sold.3SG-F  'the books were sold'
ʔa:wla 'table'	SG	F	ʔa:wla	aʔ-ʔa:wla   ʔatba:ʕ-at  DEF-table   sold.3SG-F  'the table was sold'
	DU		ʔa:wlaten	aʔ-ʔa:wlat-en   ʔatba:ʕ-at  DEF-table-DU   sold.3SG-F  'the two tables were sold'
	PL		ʔa:wla:t	aʔ-ʔa:wla:t   ʔatba:ʕ-at  DEF-tables   sold.3SG-F  'the tables were sold'

Table (8) shows that in all the examples, except the first one, the verb takes the feminine agreement suffix. Thus, regardless of their assigned gender, the dual and plural nouns of this group trigger feminine agreement suffix on the verb. A gender distinction appears only in the agreement pattern between the verb and singular nouns of this group.

It is worth stating here that nouns referring to animals may have distinct masculine and feminine forms that conform with the natural (biological) gender of the referent. For such nouns the feminine noun is formed by affixing the feminine morpheme to the masculine form. The Arabic nouns for cats and dogs belong to this group. Another group of nouns referring to animals have two distinct morphemes for the female and the male animals e.g. *ʔasad* ‘lion’ and *labwa* ‘lioness’. For a third group the female animal is referred to using the noun *ʔuntha* ‘female’ before the masculine e.g. *ʔuntha n-nimir* ‘female of the tiger/female tiger’. Generally speaking, nouns referring to animals trigger the same pattern of agreement with the following verb as non-human nouns (see table 9). That is, nouns referring to non-human animates like animals pattern with nouns referring to inanimate entities in MA.

**Table 9: (non-human/animate)- noun inflections in MA**

<b>Noun</b>	<b>Number</b>	<b>Gender</b>	<b>Form</b>	<b>Agreement</b>
kalb 'dog'	SG	M	kalb	al-kalb    ?atba:ʕ DEF-dog   sold.3SG.M 'the dog was sold'
	DU		kalben	al-kalb-en    ?atba:ʕ-at DEF-dog-DU   sold.3SG-F 'the two dogs were sold'
	PL		kila:b	al-kila:b    ?atba:ʕ-at DEF-dogs    sold.3SG-F 'the dogs were sold'
	SG	F	kalba	al-kalb-a    ?atba:ʕ-at DEF-dog-F   sold.3SG-F 'the dog was sold'
	DU		kalbaten	al-kalbaten    ?atba:ʕ-at DEF-dog-DU   sold.3SG-F 'the two dogs were sold'
	PL		kalba:t	al-kalba:t    ?atba:ʕ-at DEF-dogs    sold.3SG-F 'the dogs were sold'

Another interaction between the categories of humanness and gender is indicated by the function of the feminine suffix *-a(t)* with human and non-human nouns. The feminine suffix can be inflectional or derivational. It is always inflectional with nouns that refer to human beings (see table 10) and it is inflectional or derivational with nouns that refer to non-humans (see table 11).

**Table 10: The feminine suffix, -a(t), with [+human] nouns**

<b>Noun</b>	<b>Meaning</b>	<b>Noun-<i>a</i></b>	<b>Meaning</b>
ʔusta:z	teacher (M)	ʔusta:z-a	teacher (F)
ṭabi:b	physician (M)	ṭabi:b-a	physician (F)
wazi:r	minister (M)	wazi:r-a	minister (F)
muḍi:f	flight attendant (M)	muḍi:f-a	flight attendant (F)
zabu:n	customer (M)	zabu:n-a	customer (F)
ṣadi:g	friend (M)	ṣadi:g-a	friend (F)
muhandis	engineer (M)	muhandis-a	engineer (F)
daktor	doctor (M)	daktor-a	doctor (F)
brofisor	professor (M)	brofisor-a	professor (F)

The data in table (10) shows that the feminine marker is added to the masculine stem to encode the feminine counterpart, and, thus, the function of the feminine suffix is purely inflectional here.<sup>14</sup> This process applies also to borrowed nouns as shown by the last two words in table (10). The same morpheme seems to be inflectional or derivational when suffixed to nouns with non-human referents as shown in table (11).

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<sup>14</sup> I am grateful to Betsy Ritter (personal communication) for providing the following examples and pointing out that gender marking appears to be derivational in Hebrew. The question of whether gender is inflectional or derivational in Semitic languages is complex and requires further exploration.

- (i) Ozeret- helper (f) is a cleaning lady.
- (ii) Ozer- helper (m) is an assistant or an aide.

**Table 11: The feminine suffix, -a(t), with [-human] nouns**

<b>Group (1)</b>			
Noun	Meaning	Noun-a	Meaning
daġi:g	flour	daġi:g-a	one minute
ħaml	pregnancy	ħaml-a	campaign
tannu:r	furnace	tannu:ra	skirt
ṭabag	dish	ṭabag-a	layer/social stratum
nafaq	mine	nafaq-a	allowance
wagf	charitable trusts	wagf-a	pause
šabk	chain fence	šabk-a	Engagement party/ engagement jewelry
gaṭi:ʕ	herd	gaṭi:ʕ-a	abandonment
<b>Group (2)</b>			
Noun	Meaning	Noun-a	Meaning
namil	ants	naml-a	ant (SG)
samak	fish (PL)	samak-a	fish (SG)
naħl	bees	naħl-a	bee (SG)
zamr	burning coal (PL)	zamr-a	burning coal (SG)
ʕunab	grape (PL)	ʕunab-a	grape (SG)
simsim	sesame	simsim-a	one sesame
tuffa:ħ	apple	tuffa:ħ-a	one apple
ħummuš	chickpeas/hummus	ħummuš-a	one chickpea
ruz	rice	ruzz-a	one rice
šaʕar	hair	šaʕr-a	one hair
sukkar	sugar	sukkar-a	one sugar
warag	paper	warag-a	one paper
rasm	drawing	rasm-a	a painting/picture
fikr	conception/mental attitude	fikr-a	opinion/idea
liʕib	playing	liʕb-a	toy/game

The addition of the feminine suffix to a masculine noun stem derives a distinct noun (a new item) in group (1) and indicates one of a type with collective and mass nouns in group (2). Moreover, affixation of the feminine morpheme may indicate a sample of or example of source nouns (abstract nouns) as shown by the last three examples in table (11). Thus, in group (2) of table (11) gender switching is used to derive a singulative from a mass, non-count or collective nouns (c.f. Mathieu 2013; Fassi Fehri 2016, 2017). Such data indicates that the feminine suffix has more than one function and can serve as either an inflectional or a derivational morpheme in MA.

The argument that feminine morpheme is derivational has been postulated by Bat-El (1986) concerning Modern Hebrew. She argues that the feminine marker is derivational on nouns but inflectional on verbs and adjectives. In Arabic, based on the data I have shown, I believe argue that the feminine suffix is inflectional on nouns with human referents and can be inflectional or derivational on nouns with non-human referents. Thus, semantically distinct nouns can be derived from some non-human nouns by the affixation of the feminine suffix.

### **1.4.2.3 Humanness**

Humanness is a unique morpho-semantic property of nouns in Arabic (Holes 2004; Ryding 2005) and one that overlaps with the categories of number and gender. Regarding the category of number, human nouns trigger a straightforward agreement with verbs and adjectives while non-human nouns always trigger feminine singular agreement (except for the singular masculine (see table 8), a pattern of agreement referred to as “deflected agreement” according to Ryding (2005:125). Humanness also interacts with gender such that only human nouns have grammatical gender (distinct forms for masculine and feminine referents of the same noun) while non-human nouns

are assigned an arbitrary gender by convention. Moreover, the feminine marker *-a(t)* functions as an inflectional suffix on human nouns (nouns referring to humans) but as a derivational suffix on non-human nouns. The interaction between humanness and gender was discussed in detail in the previous section.

#### 1.4.2.4 Definiteness (Prefixation with *(al-)*)

Definiteness is a significant grammatical category in Arabic. All nouns can take the definite article *al-* in Arabic (There is no indefinite article in Arabic)<sup>15</sup>.

20. al-kita:b    mu:fi:d

DEF-book    useful

‘The book is useful’

21. al-kita:b    al-mu:fi:d

DEF-book    DEF-useful

‘The useful book’

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<sup>15</sup> Some grammarians of Arabic consider the nunation ‘tanween’ an indefinite marker since it appears only with indefinite nouns (cf. Hassan 1980; AlRashed 2012; Mansouri 2016 contra Fassi Fehri 1993). See Jarrah 2016 for syntactic investigation of nunation.

#### 1.4.2.5 *Eḍa:fa* (The construct phrase)

The construct phrase is formed by juxtaposing two nouns to function as one syntactic unit. In such constructions the second noun (the genitive phrase) modifies the first noun (the noun phrase) to indicate a number of semantic relationships. This construction is known as *eḍa:fa* ‘annexation/addition’ in Arabic. The first noun is called *al-muḍa:f* ‘the annexed/added’ while the second noun is called *al-muḍa:f ḡilayh* ‘the modifying noun<sup>16</sup>’. In English descriptions of Arabic grammar this structure is referred to as ‘genitive construct’, ‘construct phrase’, or ‘annexation structure’ (see Beeston 1970; Holes 2004; Ryding 2005). The construct phrase is confined to noun-noun or noun-pronoun sequences in MA.

The first noun of the construct phrase can never take the proclitic definite article *al-* or be suffixed with possessive pronoun suffix if annexed to another noun (see 22 and 23 below). On the other hand, the second term of the construct state can either be definite or indefinite, and it can be a noun or a pronoun (possessive pronoun suffix) as exemplified in (24), (25) and (26) below. Definiteness of the construct phrase is determined by the definiteness of the genitive phrase (the second noun).

22. \**al-kita:b at-ta:ri:x*

DEF-book DEF-history

Intended: ‘the history book’

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<sup>16</sup> This modifying noun is always in the genitive case (be it overt/morphological or covert/abstract).

23. \*kita:b-i at-ta:ri:x  
book-1SG DEF-history  
Intended: ‘my history book’

24. kita:b at-ta:ri:x  
book DEF-history  
‘the history book’

25. kita:b ta:ri:x  
book history  
‘a history book’

26. kita:b-i  
book-1SG  
‘my book’

The semantic relationships between the two nouns in the construct phrase are very wide-ranging (see Beeston 1970; Holes 2004; Ryding 2005) but I summarize them in the following groups.

**a. Identity relationship**

In this relationship, the second term (the modifying noun) defines, specifies, or explains the identity of the first term (the modified noun). This results in compound nouns.

27. ša:ṭiʔ Dubai

beach Dubai

‘the beach of Dubai’

28. madi:nat Makkah

city Makkah

‘the city of Makkah’

**b. Partitive relationship**

In this semantic relationship, the first noun determines the portion (a part or quantity of) the second noun.

29. waşlat kek

piece cake

‘a piece of cake’

30. kob gahwa

cup coffee

‘a cup of coffee’

31. rubʕ (al-)ka:sa

quarter DEF-cup

‘quarter of a/the cup’

**c. Possessive relationship**

This is one of the most important relationships encoded by the construct phrase. It includes both alienable and inalienable possession<sup>17</sup>.

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<sup>17</sup> While the construct phrase is the only structure that expresses inalienable possession, an alternative periphrastic possessive structure with the particle *ħag* can be used to encode alienable possession in MA (see the examples below).

(ii) a. fusta:n al-ʕaru:sa (Alienable possession)

dress DEF-bride

‘the bride’s dress’

32. bint ar-raʔi:s

girl DEF-president

‘the president’s daughter’

33. sayya:rat ar-raʔi:s

car DEF-president

‘the president’s car’

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b. al-fusta:n hagg al-ʕaru:sa

DEF-dress POSS DEF-bride

‘the bride’s dress’

(iii) a. walad-i (Inalienable possession)

boy-1SG

‘my son’

b. \*al-walad hagg-i

DEF-boy POSS-1SG

Intended: ‘my son’

Humanness is a requisite in this relationship. The possessor (the second term) must be human and if it is not, other types of modification, rather than possession, are indicated.

34. kita:b al-bint

book DEF-girl

‘the girl’s book’

35. kita:b at-ta:rix

book DEF-history

‘the history book’

According to Ryding (2005), an overlap appears between the semantic relationships expressed by the construct phrases such that it is, sometimes, difficult to draw clear boundaries between them.

### 1.4.2.6 Nouns as arguments

Only nouns can function as subjects, objects, or objects of prepositions in a given sentence.

36. al-walad ra:h al-madrasa  
DEF-boy go.PERF.3SG.M DEF-school

‘The boy went to school’

37. šuft al-walad  
see.PERF.1SG DEF-boy

‘I saw the boy’

38. ʔaštaret al-kita:b min al-walad  
buy.PERF.1SG DEF-book from DEF-boy

‘I bought the book from the boy’

39. miši:t maša l-walad  
walk. PERF.1SG with DEF-boy

‘I walked with the boy’

### 1.4.2.7 Negation

Nouns are negated with the particle *mu:* in MA and, contrary to the verbs, are ungrammatical with the negation particle *ma:*.

40. (ha:da) mu: kita:b-i

this not book-1SG

‘This is not my book’

41. \*ha:da ma: kita:b-i

this not book-1SG

Intended: ‘This is not my book’

### 1.4.3 Adjectival Properties in MA

Adjectives cannot be easily distinguished from nouns as the boundaries between the two classes are not sharply defined (see Dixon 2004; Maash 2009). The following are the most common properties of adjectives in MA.

### 1.4.3.1 Agreement with the modified nouns

An important property of adjectives as modifiers in Arabic is agreement with the nouns<sup>18</sup> they modify in definiteness, number and gender. While attributive adjectives always agree with the modified noun in definiteness, predicative adjectives do not. Agreement in number and gender between the adjective and the modified noun is subject to specific conditions in which humanness of the modified noun plays a major role.

Humanness of the modified noun determines the pattern of agreement with the following adjective. When the modified noun is singular and human, the adjective agrees with it in number and gender. When the modified noun is dual or plural, adjectives appear in the plural masculine form regardless of the gender of the noun. Note that unlike nouns, adjectives do not inflect for dual number. An example is given in table (12).

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<sup>18</sup> Such nouns are subject DPs in predicative adjectival structures.

**Table 12: The inflections of predicative adjectives in agreement with [+human] nouns**

The modified noun			The Adjective	Meaning
Number	Gender	Definiteness		
SG	M	al-walad DEF- boy	ħilu nice(-looking).SG.M	‘the boy is handsome’
	F	al-bint DEF- girl	ħilw-a nice(-looking).SG.F	‘the girl is pretty’
DU	M	al-walad-en DEF-boy-DU	ħilwi:n nice(-looking).PL.M	‘the two boys are handsome’
	F	al-bint-en DEF-girl- DU		‘the two girls are pretty’
PL	M	al-awla:d DEF- boys	ħilwi:n nice(-looking).PL.M	‘the boys are handsome’
	F	al-bana:t DEF-girls		‘the girls are pretty’

Adjectives modifying singular non-human nouns inflect for number and gender, while adjectives modifying dual and plural non-human nouns take the singular feminine form regardless of the gender of the noun they modify. An example is given in Table (13).

**Table 13: The inflections of predicative adjectives in agreement with [-human] nouns**

The modified noun			The Adjective	Meaning
Number	Gender	Definiteness		
SG	M	al-fusta:n DEF-dress	ħilu nice(-looking).SG.M	‘The dress is nice’
	F	aš-šaṅṭa DEF- bag		‘The bag is nice’
DU	M	al-fusta:n-en DEF-dress- DU	ħilwa nice(-looking)SG.F	‘The two dresses are nice’
	F	aš-šaṅṭaten DEF-bag- DU		‘The two bags are nice’
PL	M	al-fasa:ti:n DEF-dresses		‘The dresses are nice’
	F	aš-šinaṭ DEF-bags		‘The bags are nice’

The adjectives shown in tables (12) and (13) are predicative. Clauses with adjectival predicates have flexible word order. Hence, the adjective can either precede or follow the subject DP.

42. al-fusta:n ħilu  
DEF-dress nice  
'The dress is nice'

43. ħilu al-fusta:n  
nice DEF-dress  
'The dress is nice'

The past tense of the structures in (42) and (43) have a copula (see 44 below)<sup>19</sup>. One important property of predicative adjectives is that they are incompatible with the definite article *al-* (see 45). This can be shown with copular sentences in the past tense as the ones in the present tense can be interpreted as attributive adjectival structures.

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<sup>19</sup> More discussion in this regard is provided in Chapter 2 when I talk about verbless sentences.

44. al-fusta:n ka:n ħilu  
DEF-dress was nice  
'The dress was nice'

45. al-fusta:n ka:n (\*al-)ħilu  
DEF-dress was DEF-nice  
Intended: 'The dress was nice'

Unlike predicative adjectives, attributive adjectives have a fixed word order with respect to the noun they modify. They must always follow the modified noun and must agree with it in definiteness (see 46). Accordingly, attributive adjectives take the definite article *al-* only in agreement with the modified noun. If the modified noun is indefinite, the adjective must be indefinite, too, and is, thus, illicit with *al-* (see 47a). Moreover, the adjective and the noun it modifies form one constituent and cannot be separated (see 47b).

46. a. al-fusta:n al-ħilu  
DEF-dress DEF-nice  
'the nice dress'

b. \*al-ḥīlu al-fusta:n  
DEF-nice DEF-dress

Intended: ‘the nice dress’

c. fusta:n ḥīlu  
dress nice

‘a nice dress’

d. \*ḥīlu fusta:n  
nice dress

Intended: ‘a nice dress’

47. a. \*fusta:n al-ḥīlu  
dress DEF-nice

Intended: ‘a/the nice dress’

b. al-fusta:n (\*ka:n) al-ḥīlu  
DEF-dress was DEF-nice

Intended: ‘The dress was nice’

#### 1.4.3.2 Modification with *marra* ‘very’

A distinctive property of adjectives in MA<sup>20</sup> and one that justifies their status as an autonomous class is modification by *marra* ‘very’, which may precede or follow predicative adjectives (see 48) and always follows attributive adjectives (see 49). Nouns can never be modified by *marra* ‘very’ in MA (see 50).

48. a. al-fusta:n marra ħilu  
DEF-dress very nice.M

‘The dress is very nice’

b. al-fusta:n ħilu marra  
DEF-dress nice.M very

‘The dress is very nice’

49. a. al-fusta:n al-ħilu marra  
DEF-dress DEF-nice.M very

‘the very nice dress’

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<sup>20</sup> This adjectival property is attested cross-linguistically (see Dixon 2004)

- b. \*al-fusta:n marra al-ħilu  
DEF-dress very DEF-nice.M

Intended: ‘the very nice dress’

50. \*hu:wa<sup>21</sup> marra ṭabib  
he very physician  
‘He is very physician’

### 1.4.3.3 Negation

Just like nouns, adjectives are negated with the particle *mu:* and are ungrammatical with the negation particle *ma:* which negates verbs. The negation particle *mu:* can only precede predicative adjectives in MA (see 51b).

51. a. al-fusta:n mu: ħilu  
DEF-dress not nice.M

‘The dress is not nice’

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<sup>21</sup> *hu:wa* is optional here, but I do not enclose it between parenthesis to avoid the misinterpretation that could result from the notation \*(hu:wa).

b. \*al-fusta:n mu: al-ḥilu

DEF-dress not DEF-nice.M

Intended: ‘The dress is not nice’

To sum, in this section (§1.4) I have discussed some properties of verbs, nouns, and adjectives in MA. For each class, I have emphasized the basic grammatical aspects that are relevant to the discussion and analysis in the present study. Regarding the category of verbs, I have discussed the verbal templates, namely, simple, causative/intensive and symmetric templates, their inflection, negation and modification by external-argument-related adjuncts. For nouns, I discussed the properties of number, gender, humanness, *Eḍa:fa* (the construct phrase) and negation and I showed nouns as syntactic arguments. For adjectives, I discussed agreement with modified nouns, modification by *marra* ‘very’, and negation.

### 1.5 Significance of the Study

This thesis will contribute to the field of theoretical linguistics in general and to Arabic syntax in particular. The pattern of transitivity alternations found in different unrelated languages e.g. Greek, German, and Russian (see Alexiadou et al. 2015) seems to repeat itself in Arabic. Moreover, the assumption that morphology surfaces in particular syntactic structures to indicate changes in transitivity (valence) of the predicate and/or addition or suppression of arguments is confirmed in this study (c.f. Embick 2010, Lavidas 2010). This thesis also provides support for the premises of different root types (Embick 2004a; Alexiadou 2010; Alexiadou et al. 2006; Alexiadou et al. 2015), and different flavors of little *v* (Arad 1998; 2002; Alexiadou et al. 2006; McGinnis 2000; Van

Gelderen 2014). Morphologically-marked transitivity alternations are shown to be both semantically determined (by the encyclopedic semantics of the roots) and syntactically encoded (by the structural semantics of the functional heads). It is the interface between these two components, namely the encyclopedic semantics of the roots and the structural semantics of the functional heads, that determines the argument structure of a given predicate.

Arabic has received much traditional analysis but research that provides an analysis of Arabic within contemporary linguistic frameworks is still limited. Such research is warranted given rich morphology and agreement patterns of Arabic. This research will provide an analysis of Arabic within the framework of Distributed Morphology (Halle and Marantz 1993; Harley & Noyer 1999; Embick and Noyer 2007; Embick 2010 and related work). Structures that have traditionally been studied as being distinct from one another, namely, *ʔan-* structures, and the unaccusative participles, will be gathered under the umbrella of transitivity alternations and the role of morphology as part of the syntactic structure will be highlighted. Moreover, to the best of my knowledge no studies of Arabic have discussed the syncretism in *ʔan-* structures and the unaccusative participles. Doing so will provide answers for the puzzle of how the same predicate exhibits a range of seemingly conflicting syntactic behaviors.

## **1.6 Content**

This dissertation is divided into six chapters. In this section I outline the content of each chapter. Following the current introductory chapter, the thesis proceeds as follows:

## Chapter 2: Theoretical Synopsis

This chapter provides an overview of the syntactic theories adopted throughout the study and the theoretical assumptions on which I build my analysis. The major part of the analysis developed in this dissertation is couched within the framework of Distributed Morphology (DM) (Halle and Marantz 1993; Harley & Noyer 1999; Embick and Noyer 2007; Embick 2010 and related work) in combination with the Minimalist approach to formal syntax (Chomsky 1995 and subsequent work). Accordingly, I start Chapter 2 by introducing the basic components of DM. Then, I sketch my proposal for the structure of VP. My theoretical approach to argument structure is also outlined in this chapter, and I discuss tense and aspect, agreement, case, and verbless structures in MA.

## Chapter 3: Transitivity Alternations with *ʔan-*: Analysis of *ʔan-* Syncretism

This chapter discusses transitivity alternations between transitive structures and unaccusative (agentless) structures that are morphologically marked with *ʔan-*. In this chapter I distinguish three distinct constructions among *ʔan-* structures, namely, passive, anticausative, and (middle) psych structures. The three structures are differentiated on the basis of compatibility with four main diagnostics, *by itself*, *from*-phrase, instrumental PP, and Agent-oriented adverbs like *intentionally*. The syncretism between the three structures is discussed and the shared morphology is associated with one common syntactic property, the lack of an external argument. I argue for the existence of different root types (Embick 2004a; Alexiadou 2010; Alexiadou et al. 2006; Alexiadou et al. 2015) and different flavours of the verbal functional head, little *v* (Arad 1998; 2002; Alexiadou et al. 2006; McGinnis 2000; Van Gelderen 2014). In this chapter I develop my own theory of argument structure, building on Reinhart (2002) and Haiden's (2005) Feature Theory of theta structure. In

doing so I assume that the argument structure of a given predicate is determined both by the root and the functional head on the basis of a compatibility principle that holds for the head adjunction between the root and little *v*. In compliance with the general framework of the theory of Distributed Morphology (Halle and Marantz 1993; Harley & Noyer 1999; Embick and Noyer 2007; Embick 2010 and related work), I provide a syntactic account for *ʔan-* structures and the relation between *ʔan-* and the suppression of the external argument. Moreover, I account for the active/passive, causative/anticausative and psych OE/SE<sup>22</sup> alternations in MA, all of which are encoded with the morpheme *ʔan-* that marks the intransitive/unaccusative alternants in these structures. My account for transitivity alternations with *ʔan-* revolves around the existence of a voice feature [ $\pm$ active] on the functional head *v*.  $v_{[+active]}$  derives the transitive alternants while  $v_{[-active]}$  derives unaccusative alternants. The target morphological marker *ʔan-* spells out  $v_{[-active]}$  in MA.

#### Chapter 4: Reflexives and Reciprocals

This chapter introduces reflexives and reciprocals in MA. As is the case with *ʔan-* structures, reflexive and reciprocal structures exhibit transitivity alternations with the intransitive alternant being morphologically marked with the morpheme *ʔat-*. At first glance, such structures seem to be syncretic with *ʔan-* structures, but I argue that reflexives and reciprocals are unergative rather than unaccusative structures. While both structures, *ʔan-* structures and *ʔat-* structures, are syntactically

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<sup>22</sup> OE stands for object experiencer psych verbs while SE stands for subject experiencer psych verbs. The two types of psych verbs are discussed in detail in Chapter 3.

intransitive,  $\lambda an-$  is associated with the specifier-less head  $v_{[-active]}$ , while  $\lambda at-$  signifies bundling of the semantic features on the root to be introduced to one and the same position, [Spec,  $vP$ ]. Accordingly,  $\lambda an-$  marks structures that lack syntactically merged external arguments whereas  $\lambda at-$  marks structures that lack syntactically merged internal arguments.

## Chapter 5: Unaccusative Participle Structures

Chapter 5 introduces and discusses the third agentless structure, the unaccusative participle, and its derivation and syntactic properties in MA. In this chapter I show that unaccusative participles share common properties with nouns, verbs, and adjectives, and I distinguish a group of unaccusative participles that has been lexicalized as pure nominals. I argue that the category of unaccusative participles encompasses several structures that have not been identified in existing approaches to these structures. Unaccusative participles exhibit a pattern of syncretism that is parallel to  $\lambda an-$  syncretism. Thus, I distinguish passive, decausative, and psych unaccusative structures, all of which share the pattern  $maCCu:C$  but differ in their syntactic properties as evidenced by their compatibility with several diagnostics, namely, *from*-phrases, instrumental PPs, and Agent-oriented adverbs like *intentionally*. Finally, I provide a theoretical account for the syntactic derivation of unaccusative participles. In doing so, I do not assume that participles are derived from a verbal base; rather, I classify them as a category on their own parallel to nouns, verbs, and adjectives. A participle structure is derived when an acategorical root merges with the functional head *ptcpl* and is categorized as a participle. Just like the functional verbal head  $v$ , the participle functional head has a voice feature [ $\pm active$ ]. Active participles  $Ca:CaC$  spell out  $ptcpl_{[+active]}$  whereas unaccusative participles  $CaCCu:C$  spell out  $ptcpl_{[-active]}$ . Thus, the

active/unaccusative distinction for participles boils down to a feature [ $\pm$ active] which underlies transitivity alternations in both verbal and participle structures.

## Chapter Six: Summary, Conclusion and Further Research

This chapter provides a summary of the five chapters of the thesis. Moreover, it summarizes the research findings and highlights the relationship between morphology and the suppression of syntactic arguments in the target structures, namely, *ʔan-* structures, reflexives and reciprocals, and unaccusative participles. This chapter also includes suggested topics for further research.

### **1.7 Conclusion**

This chapter introduced the phenomenon to be studied: transitivity alternations in MA. It highlights the fact that the intransitive counterparts, in which the agent has been suppressed, are always morphologically marked in MA. The three main structures under study, unaccusative *ʔan-* structures, unergative *ʔat-* structures and the unaccusative participles have been introduced and exemplified. The variety of Arabic under study, namely MA, has been described in terms of grammatical properties and word order and aspects in which it matches and/or differs from SA have been highlighted. This chapter also stated the objectives of the study, its significance and how it contributes to the field of theoretical linguistics. Finally, an outline of the thesis was provided along with the summary and main findings of each chapter.

## Chapter 2

### Theoretical Synopsis

#### 2.1 Introduction: Common-Base Approach

As we saw in Chapter 1, many predicates in Arabic exhibit transitivity alternations. Traditional Arabic grammarians have adopted the view that intransitive alternants are derived from the transitive ones based on the morphological relationship between the two. However, in this work I will argue that neither alternant is derived from the other and, instead, both variants are derived from a common base<sup>23</sup>. That is, from the perspective of work in Distributed Morphology (DM), both transitive and intransitive variants are derived with the same root (c.f. Pesetsky 1995; Marantz 1997; Borer 2005; Lohndal 2014; Alexiadou et al. 2015).

In this chapter I provide an overview of the syntactic theory adopted in this dissertation and the theoretical assumptions on which I build my analysis. The major part of the analysis will be based on the theory of DM (Halle and Marantz 1993; Harley & Noyer 1999; Embick and Noyer 2007; Embick 2010 and related work) in combination with the Minimalist approach to formal syntax (Chomsky 1995 and subsequent work). This chapter proceeds as follows: In §2.2 I sketch out the theory of DM. In §2.3 I lay out basic theoretical assumptions for MA. These include the structure

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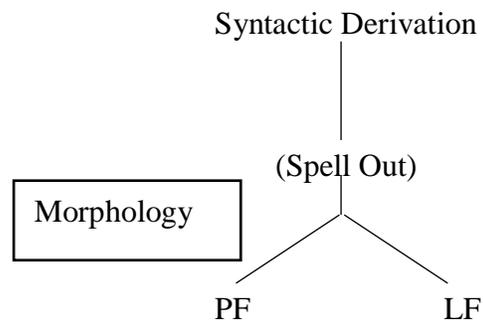
<sup>23</sup> By adopting a common-base approach I mean that none of the alternating structures (be it the transitive or the intransitive alternant) is syntactically derived from the other. That is, I do not consider one of the alternants to be the basic structure from which the other is derived via transitivity or detransitivity (pace Kallulli 2006a, see also Haspelmath 1993).

of the VP (§2.3.1), argument structure (§2.3.2), tense and aspect (§2.3.3), agreement (§2.3.4), case (§2.3.5), and verbless sentences (§2.3.6). A summary of the whole chapter is provided in §2.4.

## 2.2 Distributed Morphology

The present research is couched within the general theoretical framework of DM (Halle and Marantz 1993; Harley & Noyer 1999; Embick and Noyer 2007; Embick 2010 and related work). DM is a theory of the syntax/morphology interface where word formation is syntactic in nature but the spell out of syntactic features is subject to different operations in the phonological branch of the grammar. In this framework, a single generative system (the syntax) is responsible for both word structure and phrase structure. That is, all derivations of complex objects are syntactic. The architecture of grammar proposed in DM is as in (1). The syntax consists of a set of rules that generate syntactic structures, which can then be input to further operations in the interface levels, PF and LF.

### 1. The Grammar



Every word is formed by syntactic operations (Merge, Move). In the default case, the morphological structure at PF is simply the syntactic structure. Nonetheless, there are cases where further operations apply at PF to modify the syntactic structure.

DM is distinct from other morphological theories on the basis of three core properties, namely, late insertion, underspecification, and syntactic hierarchical structure all the way down.

- a. **Late Insertion** refers to the assumption that syntactic categories have no phonological content. Only after syntax, are the phonological expressions (vocabulary items) inserted in the so-called Spell-Out process.
- b. **Underspecification** indicates that there is no need for the phonological expressions (vocabulary items) to be fully specified for a particular syntactic position; rather, vocabulary items are inserted where no more specific form is available.
- c. **Syntactic hierarchical structure all the way down** entails that elements within both syntax and morphology are subject to the same constituent structure. That is, DM is a piece-based theory in which elements of syntax and morphology are considered discrete constituents rather than the outcome of morphophonological processes.

In DM, structure is produced both in syntax and after syntax. Three major lists are accessed during the course of derivation:

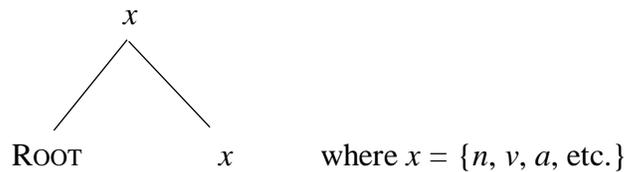
- a. The Syntactic Terminals: The list containing the primitives of the syntax (the *morphemes*). Morphemes are the atoms of morphosyntactic representations. Each morpheme is a complex of features, namely, phonological and syntactico-semantic features drawn from the set made available by Universal Grammar. Morphemes are of two main types, f-morphemes (Abstract Morphemes) and l-morphemes (Roots). The former corresponds to

functional/closed-class categories while the latter corresponds to lexical/open-class categories.

- b. The Vocabulary: The set of vocabulary items, rules relating phonological information with morpho-syntactic features and providing phonological content to abstract morphemes.
- c. The Encyclopedia: The list of semantic information that relates vocabulary items to meanings, including semantic interpretations (idiomatic meanings).

A general assumption of DM is that Roots have no grammatical category, and they can never appear 'bare' but must be categorized by virtue of being in the local domain of a category-defining functional head, *n*, *v*, or *a*.

## 2. *Root categorization*



### 2.3 Theoretical assumptions for MA

In line with DM, and given the root-pattern morphology of Arabic, I assume the existence of two layers in the structure of the VP:

- (1) Root phrase ( $\sqrt{P}$ ), the projection that involves core meaning, the roots, and introduces internal arguments<sup>24</sup> (c.f. Doron 2003a, b; Embick 2004a; Harley 2014). I assume that roots come in different types<sup>25</sup> which determine how verb meaning is associated with event structure (Arad 2003; Embick 2010; Alexiadou et al. 2006).
- (2)  $vP$ , the verbalizing functional projection that introduces external arguments (cf. Kratzer 1996; Harley 2008; Folli & Harley 2007; Alexiadou 2014b, among others) and bears features relating to semantic roles (see Chapter 3). The head of this projection, little  $v$ , serves a double function of forming a pronounceable word of the unpronounceable root and categorizing it as a verbal predicate (see Holes 2004; Ryding 2005).

The existence of a functional projection within the verb phrase was first proposed in the mid-1990s. This single projection is termed  $vP$  in Chomsky (1995) and VoiceP in Kratzer (1996), and it is responsible for introducing the external argument (Bowers 1993; Chomsky 1995; Harley 1995) and creating a verb from a category-neutral root (Harley 1995; Marantz 1997; Harley and Noyer 2000).

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<sup>24</sup> In this study, I adopt the general assumption that in a simple transitive verb construction, the theta-role of the direct object or internal argument (Patient/Theme) is assigned/licensed by the root, whereas the theta-role of the thematic subject or external argument (Agent/Causer/Stimulus) is assigned/licensed by little  $v$  (see Kratzer 1996; Doron 2003a,b; Embick 2004a; Alexiadou & Schäfer 2006; Folli & Harley 2008, among others). This assumption is consistent with the premise that Agent and Causer are obligatorily externally merged while Patients and Themes are obligatorily internally merged (Everaert et al. 2012).

<sup>25</sup> The different root types assumed for MA are introduced in Chapter 3.

It is worth mentioning that there are prominent proposals that VoiceP and *v*P are distinct functional projections in the verb phrase, although important details of such proposals differ (c.f. Pylkkänen; 2002; 2008; Alexiadou et al. 2006; Marantz 2008; Harley 2009; 2013; Legate 2014; Tollan & Oxford 2018, among many others who argue for a tripartite structure of the VP).

As stated above, in this dissertation I assume a bipartite structure of the VP with a single functional projection *v*P that serves both to verbalize an acategorical root and to introduce the external argument (c.f. Chomsky 1995, Harley 1995; Marantz 1997). Motivation for this assumption arises from the fact that the non-active morphology in alternating structures, *ʔan-*, is part of the spell out of the verb. That is, the intransitive alternating structures are not agglutinating structures (see Chapter 3, §3.5.1). Thus, *ʔan-* appears on the verbalizing head *v* rather than on a higher functional projection. Provided that *ʔan-* realizes unprojected external argument and that it is part of the spell out of *v*, it follows that *v* is the functional projection where the external argument is introduced to syntax or suppressed and realized via additional morphology upon the spell out of *v*.

The assumptions stated in (1) and (2) above and their implications will be discussed within the context of the theory of Distributed Morphology (Halle and Marantz 1993; and related work).

### **2.3.1 Roots and Little *v***

The two basic components in morpheme formation are *roots* and *features* (Halle and Marantz 1993). Roots are devoid of all functional material and are not specified for syntactic category, i.e. they are category-neutral. They become specified as verbs when combined with category features in *v*, that is, when selected by a functional verbal head *v* to form an incorporated structure. Little *v*

is a universal functional category directly involved in the building of predicates (cf. Arad 2002; 2003).

As discussed earlier, Arabic is a root-and-pattern language. Roots consist basically of three consonants<sup>26</sup> that are unpronounceable and category-neutral. On the basis of their encyclopedic semantics, roots fall into different classes (Alexiadou 2010; Alexiadou et al. 2006) (the different root classes are introduced in Chapter 3). The root is only turned into a verb when put in the environment of the head bearing the ‘*v*’ feature. Thus, the morphological and syntactic components of the roots are determined once they interlock with a specific pattern (see Chapter 1). Accordingly, patterns turn unpronounceable roots into pronounceable strings and, at the same time determine the syntactic category of the category-neutral root. Once the interpretation of the root is determined, it is carried along throughout the derivation.

Category features such as ‘*v*’ are not primitives, but rather are feature bundles. Languages may bundle features in different ways, thus having different ‘*v*’ heads (see Arad 1998; 2002; Alexiadou et al. 2006; 2015; McGinnis 2000; Van Gelderen 2014). Roots can be combined with verbal morphemes of different types or different semantic “flavors”, thus forming different verbs.

I assume that little *v* bears a voice feature [ $\pm$ active]. This feature signifies whether the functional head projects a specifier or not. A functional projection  $v_{[+active]}$  encodes transitive structures with explicit external arguments whereas  $v_{[-active]}$  derives intransitive structures from transitive roots. I am agnostic about whether *v* in the unergative and non-alternating unaccusative

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<sup>26</sup> This is the most frequent and typical root type in Arabic. There exist two-consonant and four-consonant roots in Arabic, but they are not as common as the tri-consonantal roots.

structures lacks [ $\pm$ active] or is incompatible with [-active]. I will leave this issue for future work. Note that unergative intransitives and true unaccusatives do have passive counterparts in SA.

### **2.3.2 Argument Structure Theory**

There are two major approaches regarding the theory of argument structure, a lexical and a syntactic one. The lexicalist, projectionist, view assumes that argument structure is determined by the semantics of the lexical predicate (see Chomsky, 1970, 1981; Levin & Rappaport-Hovav 1995, 1998; Jackendoff; 1990; Baker, 1988; among others). Contrary to this position, the constructional view proposes that it is not the lexical semantics of the verb that determines its syntax, but rather the functional structure in which a verb is inserted. On the constructional approach, the lexical content of a predicate is reduced to a minimum, which indeed remains constant across different constructions, and thematic meaning is attributed to specific constructions (see Borer 1994, 1998, 2003, 2005; Hoekstra and Mulder 1990; Hoekstra 1992; Ertshik-Shir and Rapoport 1997; Ghomeshi and Massam 1995; Ritter and Rosen 1996; Marantz 2005; Ramchand 2008; Acedo-Matellán 2010; Harley 2011, among many others).

Many constructionists assume (in line with DM) that words consist of category-neutral roots that combine with functional heads, e.g. little *v*, to be categorized into a category (a verb) and get event-based meanings. Thus, the structural meaning is not provided by the lexical predicate but rather by the syntactic construction which in turn encodes argument structure and expresses the type of eventuality for verbs. Arguments are not licensed via the lexical entry or in the lexicon; rather, they are licensed via the syntax, specifically in the specifiers of functional projections.

I am adopting a position in between the projectionist and the constructionist views. Specifically, I assume that both the root type and the syntactic structure play a role in determining the argument structure of the main predicate. Category-neutral roots come with general specifications that determine their possible argument structure, but it is the actual syntactic structure (functional structure) that determines which argument structure surfaces for a given predicate (as will be discussed in detail in Chapter 3 within my account for transitivity alternations with *ʔan-*).

### **2.3.3 Tense/Aspect in Arabic verbs**

Tense and aspect<sup>27</sup> in Arabic have recently received increasing attention in the literature (cf. Fassi Fehri 1993; Benmamoun 2000; Aoun et. al 2010; AlRashed 2012; Alasmari et al. 2018 among others). The literature on Arabic has been dominated by the dispute on whether Arabic verb forms (perfective vs. imperfective) express tense but not aspect, aspect but not tense, both tense and aspect, or neither tense nor aspect.

Arabic traditional grammarians consider the perfective/imperfective verbal forms to encode tense as past versus non-past (Sibawayh 1977). The same view has been pursued by El-Sadek (2014) who argues that Arabic is a tense-specific language with two finite forms, one that is prefixed (imperfective form) and one that is un-prefixed (perfective form), a premise which has also been adopted by linguists such as Fassi Fehri (2012) and Binnick (1991). On the other hand, other scholars argue that Arabic is aspect-specific language and, thus, for them the

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<sup>27</sup> Aspect here is used to refer to the external/grammatical aspect as opposed to the inner/lexical aspect (see AlRashed 2012 for a discussion of the two aspect types).

perfective/imperfective distinction is purely aspectual (c.f. Cohen 1924; Fleisch 1979, cited in Al-Aqarbeh 2011).

Another group of scholars argue that both tense and aspect can be inferred from the inflectional verbal morphology of Arabic (c.f. Travis 1979; Fassi Fehri 1993; Bahloul 1994; Tucker 2010). Comrie (1976) argues that Arabic reflects combined tense/aspect oppositions. He bases this claim on the fact that the imperfective form in Arabic can be used with past time reference unlike other languages (e.g. Russian) where the imperfective is always present tense. Similarly, in their analysis of Arabic and English verb tense and aspect using Google translate, Alasmari et al (2017) conclude that perfect/imperfect conjugation on Arabic verbs can be employed to express multiple tenses and aspects based on sentence elements.

A fourth group of scholars claim that Arabic verb forms encode neither tense nor aspect. Kurylowicz (1973), for example, argues that Arabic verbal morphology marks neither an aspectual nor a temporal category. He draws this conclusion based on a comparison between Arabic and other languages like Slavic and Romance. This same assumption is embraced by Benmamoun (1999); Aoun et al. (2010) and Hallman (2015) and it is the premise adopted in the present study.

According to Aoun et al. (2010, see also Benmamoun 1999), the assumption that perfective/imperfective forms encode tense is refuted since both perfective and imperfective forms are used in past tense sentence (see 3 below)<sup>28</sup>. In other words, the past tense is not confined to perfective forms. While the perfective form occurs almost exclusively in the context of past tense

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<sup>28</sup> All data presented in this section are based on equivalent data in Aoun et al. (2010).

sentences, the imperfective form has a wider distribution since it encodes past, present and future tense sentences (see 3b and 4).

3. a. katab                      al-wa:ʒib                      (Perfective/Past)

write.PERF.3SG.M    DEF-homework

‘He wrote the homework’

b. lam                      yaktub                      (Imperfective/Past)

Neg.PAST    write.IMPERF.3SG.M

‘He didn’t write’

4. a. yiktub                      al-wa:ʒib                      (Imperfective/Present)

write.IMPERF.3SG.M    DEF-homework

‘He writes the homework’

b. lan ta-ktub (Imperfective/Future)

Neg.FUT write.IMPERF.3SG.F

‘She won’t write’

Moreover, according to Aoun et al. (2010: 24), the imperfective form “occurs in such a wide variety of aspectual and temporal contexts that it is impossible to attribute a particular temporal or aspectual interpretation to it”. It occurs in the context of modals (5a), future tense markers (5b), non-finite imbedded clauses (5c), and negative imperatives (5d) (see Benmamoun 1999; Aoun et al. 2010).

5. a. la:zim yidrus

must study.IMPERF. 3SG.M

‘He must study’

b. ra:h yidrus

will study.IMPERF. 3SG.M

‘He will study’

c. biddu/yiba yidrus

want. 3SG.M study IMPERF.3SG.M

‘He wants to study’

d. la: tiktub

Neg. write. IMPERF.3SG.M

‘Don’t write’

Given that perfective/imperfective inflection does not encode any tense, I assume, following Aoun et al. (2010), that tense is an abstract morpheme generated in T.

With respect to aspect, MA has specific aspectual markers that attach to the imperfective form of the verb (see 6) as do modern Arabic dialects in general (see Aoun et al. 2010). Thus, aspect is not encoded via the perfective/imperfective inflection but with distinct aspectual markers.

6. a. bi-yiktub

PROG-write.IMPERF.3SG.M

‘He is writing’

b. ga:ʕid yiktub

PROG. write.IMPERF.3SG.M

‘he is writing right now/at the moment’

Having argued that Perfective/imperfective forms encode neither tense nor aspect in Arabic<sup>29</sup>, I now turn to the coding of these two forms in syntactic derivations. Examining the two forms in table (6) (repeated as table 14 below for ease of reference) makes it clear that the imperfective forms are not formed with a mere addition of an imperfective prefix to the perfective forms; rather, the two forms are morphologically distinct. Thus, I assume that these inflectional forms are encoded via a feature [ $\pm$ PERF] on the functional head little  $\nu$  and that the verb cannot be spelled out without this information. For example, if a  $\sqrt{P}$  with the root *k.t.b* combines with little  $\nu_{[+PERF]}$ , it is spelled out as *katab* ‘write. PERF’. And if the same root merges with little  $\nu_{[-PERF]}$ , it is spelled out as *yiktub* ‘write.IMPERF’.

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<sup>29</sup> The perfective/imperfective inflectional forms encode a semantic distinction that is not grammaticalized as tense or aspect in Arabic. The nature of this distinction falls beyond the scope of this dissertation. Thus, I will leave the investigation of such a semantic distinction to future research.

**Table 14: The perfective/imperfective paradigm for *katab* ‘write’ in MA**

Root	Person	Number	Gender	Perf	Meaning	Imperf	Meaning
k.t.b ‘write’	1	SG	M	katab-t	‘I wrote’	ʔaktub	‘I write’
			F				
		PL	M	katab-na	‘we wrote’	niktub	‘we write’
			F				
	2	SG	M	katab-t	‘you wrote’	tiktub	‘you write’
			F	katab-ti			
		PL	M	katab-tu		tiktubu	
			F				
	3	SG	M	katab	‘he wrote’	yiktub	‘he writes’
			F	katab-at	‘she wrote’	tiktub	‘she writes’
		PL	M	katab-u	‘they wrote’	yiktubu	‘they write’
			F				

As stated earlier in this thesis, the third person singular masculine perfective is the citation form in Arabic linguistic convention since it is considered unmarked (Hallman 2015). Accordingly, I present all data in the present study in this citation form. However, other forms are used whenever needed to explain relevant grammatical properties.

### 2.3.4 Agreement

Subject-verb agreement asymmetry relative to word order is a distinctive feature of SA (c.f. Mohammad 2000; Fassi Fehri 1993; Ouhalla 1994; Benmamoun 2000; Harbert and Bahloul 2002; Soltan 2006, 2007; Al-Horais 2009; Aoun et al. 2010; Ahmed 2016, among others). Verbs fully agree with their preceding subjects (in SVO sentences) while they partially agree with their following subjects (in VSO structures).

7. a.    ḏahaba            l-awla:d-u  
          go.PERF.3SG.M   DEF-boys-NOM  
  
          ‘The boys went’

b.    al-awla:d-u       ḏahabu  
          DEF-boys-NOM   go.PERF.3PL.M  
  
          ‘The boys went’

8. a.    ḏahab-at         t-tilmi:ḏa:t-u  
          go.PERF.3SG-F   DEF-female students-NOM  
  
          ‘The (female) students went’

- b. at-tilmi:ða:t-u                      ðahabna  
 DEF-female students- NOM    go.PERF.3PL.F

‘The (female) students went’

In verb initial constructions like (7a) and (8a) the verb agrees with the subject only in person and gender (partial agreement), and not in number, which remains singular as a default. However, in subject initial sentences the verb agrees with the subject in person, number and gender (full agreement) as in (7b) and (8b). This phenomenon is called impoverished agreement (see Benmamoun 2000; Aoun et al. 2010 among others cited in this section).

The subject-verb agreement asymmetry found in SA relative to word order is not attested in MA since full subject-verb agreement is obligatory in both SVO and VSO constructions as shown in the following examples.

9. a. al-awla:d    ra:ħu  
 DEF-boys    go.PERF.3PL.M

‘The boys went’

- b. ra:ħu                      l-awla:d  
 go.PERF.3PL.M    DEF-boys

‘The boys went’

Absence of subject-verb agreement asymmetry relative to word order is not specific to MA but is attested as well in other spoken Arabic dialects such as Moroccan and Lebanese Arabic (Aoun et al. 1994; Aoun and Benmamoun 1999; Benmamoun 2000; Aoun et al. 2010), Palestinian Arabic (Mohammad 2000) and Jordanian Arabic (Al-Daher 2016; Sahawneh 2017).

### 2.3.5 Case

This section sketches out my account for case in MA, building on the dependent case theory as developed in Baker (2015) and implemented for SA in Ahmed (2016). Arabic is a nominative-accusative language, where the subject of transitive structures and the subject of intransitive structures pattern together in contrast to the object. It is worth stating here that while case is morphologically represented (overt) in SA, it is abstract (covert) in MA. Accordingly, the word order is free to a great extent in SA due to extensive case marking while it is more restricted in MA due to absence of overt case markers.

According to the updated version of the dependent case theory by Baker (2015), case is assigned based on the structural relationship between nominals. The syntactic configuration that matters for the dependent case theory is not the absolute position of a DP<sup>30</sup> or its relationship to a functional head, but rather its position relative to other DPs within a particular syntactic domain. While structural nominative case is assigned via Agree with T, structural accusative case is assigned when the DP is c-commanded by another DP in either the same phasal domain or in a higher phasal domain depending on whether the lower phase is a soft phase, a phase whose complement remains

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<sup>30</sup> Baker (2015) and Ahmed (2016) use NP instead.

visible in the next stage of the derivation, or a hard phase, a phase whose complement is invisible for later operations. If the lower phase is a soft phase, then the DPs inside this phase are still accessible to the higher phase. In contrast, if the lower phase is a hard phase, then the DPs inside this phase are inaccessible to the higher phase. For the analysis to work, there have to be at least two DPs in the spell out domain of a phase (Baker 2015).

Baker (2015) assumes the existence of two major phases. The first such phase is  $vP$ . When the head of this phase, little  $v$ , is merged into the structure, its spell out domain<sup>31</sup> is sent to Spell-Out. The second major phase is CP. When the head of this phase C is merged into the structure, its spell out domain TP is sent to Spell-Out. Baker considers CP a hard phase in that noun phrases inside this phase are inaccessible to higher phases for the purpose of case assignment. Moreover, having captured the fact that some languages have differential case marking while others do not, Baker (2015) proposes to consider  $vP$  as either a soft phase, in that the noun phrases inside this phase are still accessible to higher phases for the purposes of case assignment, or as a hard phase. This property of the  $vP$  is, according to Baker, subject to cross-linguistic differences.

In his account for case in SA, Ahmed adopts Baker's (2015) dependent case theory. In doing so, he argues that  $vP$  is a soft phase in Arabic so that DPs inside this phase are always accessible to the higher phase. The following are the theoretical assumptions for case in MA, building on Baker's (2015) dependent case theory and adopting Ahmed's (2016) assumptions for case in SA:

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<sup>31</sup> For Baker (2015) and Ahmed (2016) this domain is represented by a VP while in the analysis proposed in this thesis such a domain is represented by a  $\sqrt{P}$ .

- CP and  $vP$  are phases
- The phasal domain of CP is TP
- The phasal domain of  $vP$  is  $\sqrt{P}$
- C and  $v$  are phase heads
- C is a hard phase head, hence, the contents of its  $\sqrt{P}$  are invisible for the subsequent syntactic derivation after spelling out.
- $v$  is a soft phase head, and, thus, the contents of its  $\sqrt{P}$  complement remain visible for subsequent syntactic derivation after undergoing spell out. That is, they remain active in the derivation.
- TP is the spell-out domain of the phasal head C. OR The complement of C, namely, TP, is a spell-out domain.
- $\sqrt{P}$  is the spell-out domain of the phasal head  $v$ . OR The complement of  $v$ , namely,  $\sqrt{P}$ , is a spell-out domain.

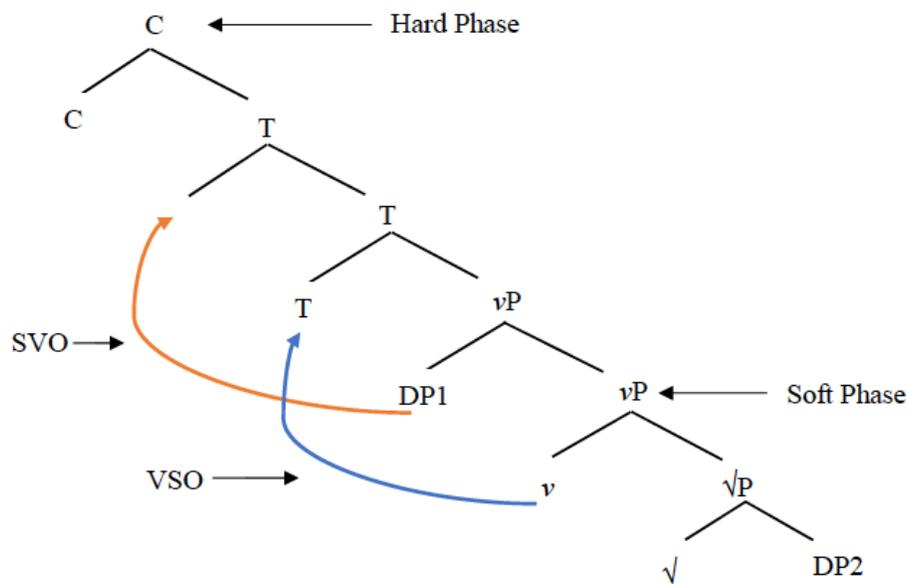
One final set of assumptions required before we consider the derivation of a simple transitive sentence in MA concerns the status of the preverbal DP in SVO sentences and the EPP in MA. While both VSO and SVO orders are attested in Arabic, the status of the preverbal DP in SVO sentences has been the subject of ongoing debate among Arab linguists. Some argue that it is a subject (Benmamoun 1999, 2000) whereas others claim that it is a topic (Soltan 2007; Al-Balushi 2011), and still others argue that the status of the preverbal DP is ambiguous (Fassi Fehri 1993). In this dissertation I follow Benmamoun (1999, 2000) in considering the first DP in SVO sentences a subject rather than a topic. With respect to the EPP feature, Wurmbrand and Haddad (2016) argue,

in their model for agreement in SVO and VSO word orders, that there are two ways of satisfying the EPP feature of T:

- Directly by raising the subject from [Spec.  $vP$ ] to [Spec, TP].
- Indirectly by raising the verb from  $v$  to T.

Building on these assumptions along with the theoretical framework outlined above, the derivation of a simple transitive sentence proceeds as follows:

10.



In (10), DP2 is merged into the structure as the complement of the root, and  $\sqrt{P}$  is projected. The functional head  $v$  is then merged into the structure with the external argument DP1 merged in the specifier position of  $vP$ . Provided that  $vP$  is a phase, its domain  $\sqrt{P}$  is spelled out. The only argument in this domain is DP2. Thus, the dependent case does not apply. The functional head T

is merged into the structure. The EPP feature of T is satisfied in two ways (Wurmbrand and Haddad 2016). This can be achieved directly by raising the subject from [Spec, *v*P] to [Spec, T] resulting in SVO order, or indirectly by raising *v* to T resulting in VSO order. If the EPP is satisfied directly, DP1 in [Spec, *v*P] raises to the [Spec, TP]. Once C is projected, its phasal domain, namely, TP, is spelled out. This domain has two accessible DPs and DP1 c-commands DP2. Thus, DP2 is eligible for dependent accusative case since it is still active in the derivation because it occurs within a soft phase. As for DP1 it gets default case in SVO structures (see Ahmed 2016). Following the modern generative literature on Arabic, I assume that the nominative case is the default case in Arabic (c.f. Fassi Fehri 1993; Ouhalla 1994; Mohammed 1990, 2000; Raḥḥali 2003; Soltan 2007 and Al-Balushi 2011; AlRashed 2012; Ahmed 2016).

On the other hand, if the EPP feature of T is satisfied indirectly, the verb raises from *v* to T, and again when the phasal head C is merged, its TP domain is spelled out at this point. In this domain also, DP1 c-commands DP2. Therefore, DP2 receives the dependent accusative case given that DP2 is part of a soft phase whose contents are visible to C. As for DP1, it receives the structural nominative case via Agree with T. Given that dependent case assignment is licit with both word orders in Arabic, namely SVO and VSO, I will focus on the SVO order for the rest of this dissertation<sup>32</sup>.

Having discussed the structure of simple transitive sentences in MA, I now turn to the structure of verbless sentences. Such structures are relevant to the discussion of participles in Chapter 5.

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<sup>32</sup> AlRashed (2012) and Ahmed (2016) consider the SVO order to be the default word order in Arabic. As stated earlier, in this dissertation I am not adopting a particular position regarding the default word order in MA.

### 2.3.6 Verbless Sentences in MA

Arabic allows sentences with verbless predicates (cf. Bakir 1980; Rapoport 1987; Eid 1983; Fassi Fehri 1993; Benmamoun 2000; Aoun et al. 2010; among many others). Thus, a sentence in the present tense may consist only of a subject<sup>33</sup> and a non-verbal predicate which can be a noun, adjective, prepositional phrase, or participle (see 11)<sup>34</sup>. It is worth stating here that verbless sentences appear only in the present tense in Arabic (Benmamoun 2000; Al-Horais 2006; Al-Balushi 2011).

11. a. Sa:mi daktor

Sami doctor

‘Sami is a doctor’

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<sup>33</sup> There is no consensus as to whether the pre-predicate DP in verbless sentences is a subject (as argued by Fassi Fehri (1993); Benmamoun (2000; 2008)) or a topic (as assumed by Soltan (2007) and Al-Balushi (2011; 2012)). The former assumption is the one adopted in this thesis.

<sup>34</sup> The data in (11) is the MA equivalent of the data presented in Aoun et.al. (2010). The last example with a participle as a predicate is my own addition (see Makkawi 2014 for a similar proposal). I add participles to the predicates since I consider them an autonomous category that is distinct from verbs and nominals (see Chapter 5).

b. al- ʒaw        ħilu

DEF-weather    nice

‘The weather is nice’

c. al-aṭfa:l    fi    l-madrasa

DEF-kids    in    DEF-school

‘The kids are at school’

d. al-ba:b        maftu:ħ

DEF-door    open.UP.3SG.M

‘The door is open’

The literature on verbless sentences in Arabic revolves around three main analyses of these structures. One analysis concerns the existence of a null auxiliary (Jelinek 1981) or a verbal copula that is not lexically realized either because it has undergone deletion (Bakir 1980) or it is phonologically null (Fassi Fehri 1993). The argument for a null copula is based on the obligatory existence of a past tense copula in the past tense counterparts of the present sentences as shown below.

12. a. Sa:mi ka:n daktor

Sami was doctor

‘Sami was a doctor’

b. al- ʒaw ka:n ħilu

DEF-weather was nice

‘The weather was nice’

c. al-aṭfa:l kan-u fi l-madrasa

DEF-kids were in DEF-school

‘The kids were at school’

d. al-ba:b ka:n maftu:h

DEF-door was open.UP. 3SG.M

‘The door was open’

An argument against the existence of a null copula in verbless sentences is based on the fact that modal heads select verbal complements (Aoun et al 2010) (see 13 below)<sup>35</sup>. Accordingly, if the present tense verbless sentences contain a null copula, they should allow the occurrence of a modal head, but this is not the case in MA (as well as in Moroccan and Lebanese Arabic (see Aoun et al. 2010) as shown in (14) below.

13. mumkin/ la:zim yimshi

may/must walk. IMPERF.3 SG. M

‘He may/must walk’

14. a. Sa:mi mumkin/ la:zim \*(yiku:n ) daktor

Sami may/must be. IMPERF.3 SG.M doctor

‘Sami may/must be a doctor’

b. al- 3aw mumkin/ la:zim \*(yiku:n ) ħilu

DEF-weather may/must be IMPERF.3 SG. M nice

‘The weather may/must be nice’

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<sup>35</sup> All the data presented in this section are my own MA equivalents for the data presented in the cited works.

c. al-aṭfa:l mumkin/ la:zim \*(yiku:n-u ) fi l-madrasa  
 DEF-kids may/must be- IMPERF.3M -PL in DEF-school

‘The kids may/must be at school’

d. al-ba:b mumkin/ la:zim \*(yiku:n ) maftu:h  
 DEF-door may/must be. IMPERF.3 SG. M open.UP. 3SG.M

‘The door may/must be open’

While the modals *mumkin* ‘may’ and *la:zim* ‘must’ select a verbal complement in ( 13), they cannot appear in verbless sentences without an overt copula. This suggests verbless sentences do not contain a null copula (see Aoun et al. 2010; see also Al-Horais 2006 for an argument contra the null copula in verbless sentences in Arabic.).

A second analysis treats verbless sentences as matrix small clauses (Mouchaweh 1986; Jouini 2014), and a third analysis assumes that verbless sentences contain a functional projection that is marked for tense but no verbal copula (Benmamoun 2000; 2008; Aoun et al 2010). I will argue in favor of the third analysis rather than the small clause analysis (see Makkawi 2014 for a similar account for verbless sentences, specifically in MA).

Verbless sentences are tensed clauses that involve a tense projection (Ouhalla 1988; Fassi Fehri 1993; Benmamoun 2000; Al-Balushi 2012). Support for this assumption is provided by the following examples which are the MA equivalent of Fassi Fehri’s (1993) SA examples.

15. a. ar-ri33a:l ya-kul daħi:n

DEF-man eat. IMPERF3SG. M now

‘The man is eating now’

b. \* ar-ri33a:l ya-kul ʔams

DEF-man eat. IMPERF3SG. M yesterday

‘The man is eating yesterday’

16. a. ar-ri33a:l mari:ð daħin

DEF-man sick now

‘The man is sick now’

b. \*ar-ri33a:l mari:ð ʔams

DEF-man sick yesterday

‘The man is sick yesterday’

According to Fehri Fassi (1993), if contrasting (15a) with (15b) shows that a verbal sentence contains tense, then, by analogy, contrasting (16a) with (16b) must indicate that a verbless sentence contains tense. The ungrammaticality of (15b and 16b) is attributed to the contradiction between

the past time reference contributed by the adverb *ʔams* ‘yesterday’ and the present tense contributed by the verbless sentence. Benmamoun (2000), suggests that compatibility of verbless sentences with temporal adverbs (like *daħin* ‘now’) is in itself a support for the premise that a tense operator exists in verbless sentences since (building on Eisele 1988) temporal adverbs must be anchored by tense.

Another argument in favor of a tense projection in verbless sentences is based on the independent temporal reference of verbless sentences embedded under a clause in the past tense (Benmamoun 2000). While the matrix sentences in (17) are in the past tense, the embedded verbless sentences have their own present tense interpretation. Accordingly, verbless sentences are tensed clauses rather than small clauses as the latter depend on the matrix sentence for their temporal reference.

17. a. ʕirift                      ʔinnu    Sami   doktor

know.PERF.1SG    that        Sami   doctor

‘I knew that Sami is a doctor ‘

b. Simiʕt                      ʔinnu    al-ʒaw        ħilu

hear.PERF.1SG    that        DEF- weather    nice

‘I heard that the weather is nice’

c. ʕirift                    ʔinnu    al-aʔfa:l    fi    l-madrasa  
 know.PERF.1SG    that        DEF-kids    in    DEF-school  
 ‘I knew that the kids are at school’

d. diri:t                    ʔinnu    al-ba:b    maftu:ħ  
 know.PERF.1SG    that        DEF-door    open.UP. 3SG.M  
 ‘I knew that the door is open’

Further support for the premise that verbless sentences are tensed clauses is provided by negation. Aoun et al. (2010) argue that the main difference between the grammatical examples in (18) and the ungrammatical examples in (19) below is that the subject precedes sentential negation in (18) while it follows it in (19). A plausible explanation for the difference between (18) and (19) is that the movement of the subject to [Spec, TP] is obligatory to satisfy the EPP. If no tense projection appears in verbless sentences, the movement of the subject and, thus, the ungrammaticality of (19) remains unexplained.

18. a. Sa:mi    mu:    daktor  
 Sami    not    doctor  
 ‘Sami is not a doctor’

b. al-ʒaw            mu: ħilu

DEF-weather   not   nice

‘The weather is not nice’

c. al-aṭfa:l    mu: fi l-madrasa

DEF-kids   not   in   DEF-school

‘The kids are not at school’

d. al-ba:b        mu: maftu:ħ

DEF-door   not   open.UP. 3SG.M

‘the door is not open’

19. a. \*mu: Sa:mi   doktor

not   Sami   doctor

‘Sami is not a doctor’

b. \*mu: l- ʒaw            ħilu

not DEF-weather nice

‘The weather is not nice’

c. \*mu: l-aʦfa:l        fi l-madrasa

not DEF-kids in DEF-school

‘The kids are not at school’

d. \*mu: l-ba:b            maftu:h

not DEF-door open.UP.3SG.M

‘The door is not open’

If verbless sentences have a tense projection, why is an overt verbal head (copula) not possible in such structures? Different answers have been proposed for this question. Fassi Fehri (1982, cited in Aoun et al 2010) assumes the existence of a copular verb with the feature [-Past] in the deep structure of verbless sentences. Since the tense feature [-Past] is unmarked/default tense specification in Arabic, and, thus, requires no verbal element to carry it, the copular verb does not surface but remains null. Unlike Fassi Fehri, Benmamoun (2000) and Aoun et al. (2010) argue against the existence of a null copular verb in verbless sentences. Building on Chomsky (1995), they attribute the absence of the copular verb in (present) verbless sentences and its obligatory

existence in the past (and future) tense to the different categorial feature specifications of the elements in tense. That is, while the past (and future) tense T is specified for both features [+D] and [+V], the present tense is specified only for the feature [+D]. Accordingly, a copular verb must exist in the past tense to satisfy [+V] on the tense head T while no dependency is established between the verb and the present T due to absence of [+V], and consequently, no copular verb is needed. Given that MA data precludes the existence of a null copula in verbless sentences, I am adopting the latter account assumed by Benmamoun (2000) and Aoun et al. (2010) in this thesis (see Al-Horais 2006; Soltan 2007 and Al-Balushi 2012 for alternative accounts for absence of a copular verb in Arabic verbless sentences).

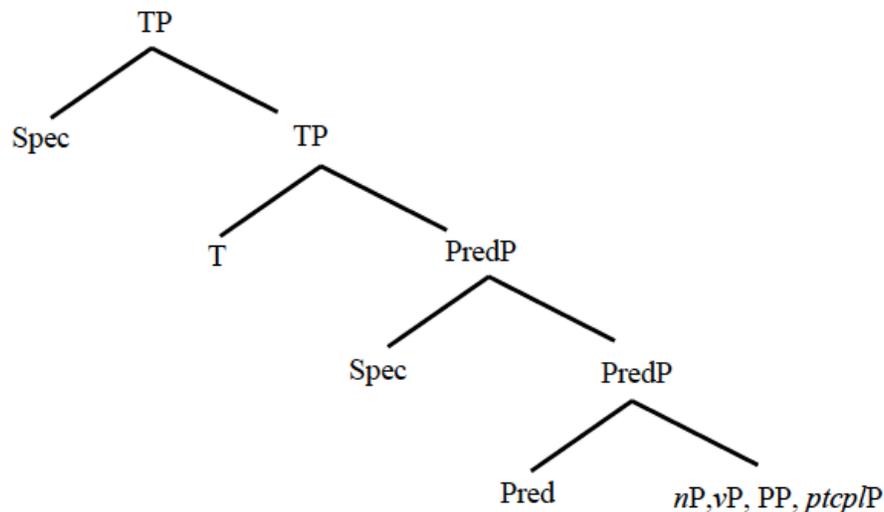
Having argued against a null copula and for the existence of a tense projection in verbless sentences in MA, I now turn to the syntactic structure of verbless sentences in MA. Building on Bowers (1993), Bailyn (2001), Baker (2003), and Adger & Ramchand (2003), and in line with Makkawi (2014), I assume that the predication relation between the subject and the predicate in verbless sentences is regulated by a functional projection PredP. While the predicate, which can be a *nP*, *aP*, *PP* or a participle phrase *ptcpIP*<sup>36</sup> is in the complement of the PredP, the subject is in [Spec, PredP]. Given that verbless sentences have a tense projection TP, the subject has to move to [Spec, TP] to satisfy the EPP property of T. In Arabic, the EPP feature is satisfied either directly, by moving the subject from [Spec, *vP*] to [Spec, TP], or indirectly, by moving *v* to T (Wurmbrand and Haddad 2016) (see the previous section §2.3.5). However, since verbless sentences has no *v* to move to T, the EPP feature cannot be satisfied indirectly, and, thus, must be satisfied directly by

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<sup>36</sup> I assume that the participle phrase is projected once a root phrase  $\sqrt{P}$  merges with a participle head *ptcpl* (see Chapter 5).

moving the subject to [Spec, TP]. The syntactic structure of verbless sentences in MA is presented in (20).

20.



## 2.4 Summary

This chapter lays out the theoretical assumptions adopted in the present dissertation. I started by introducing the basic components of Distributed Morphology (DM) (Halle and Marantz 1993; Harley & Noyer 1999; Embick and Noyer 2007; Embick 2010 and related work) since my account for transitivity alternations in MA is cast within this framework. Then, I discussed the general theoretical assumptions on which I base the analysis developed in the present dissertation. In line with DM, I assume that VPs consist of  $\sqrt{P}$  and  $vP$ . The former is the projection that involves core meaning, the roots, and introduces internal arguments whereas the latter introduces the external arguments. With respect to the argument structure, I adopt a position in between the projectionist and the constructionist views by assuming that both the root type and the syntactic structure play a role in determining the argument structure of the predicate. I also discussed the

perfective/imperfective inflection in Arabic and attribute it to a feature [ $\pm$ PERF] on little *v*. Then, I sketched out my account for case assignment in MA building on Baker's (2015) dependent case theory. After introducing the syntactic derivation of simple transitive sentences in MA, I presented my proposal for the syntactic structure of verbless sentences in MA building on Benmamoun (2000) and Aoun et al. (2010).

## Chapter 3

### Transitivity Alternations with *ʔan*-<sup>37</sup>: Analysis of *ʔan*- Syncretism

#### 3.1 Introduction

In Standard Arabic (SA), passive constructions are formed by mapping a consonantal root to the templatic pattern CuCiCa (apophonic passive) (cf. Holes 2004; Ryding 2005). However, this apophonic structure does not exist anymore in many modern vernaculars of Arabic, and it has been replaced by *ʔan*-/*ʔat*-CaCaC, the form traditionally associated with *ʔaffʔalu l-lmuṭa:wafʔa* ‘verbs of obedience’, or amenable verbs (Al-ateeyah, 2004; Muhamad 2007). Makkan Arabic (MA) is one of the modern vernaculars of Arabic that has replaced the apophonic passive construction with a morphological passive formed by affixing the morpheme *ʔan*- to a transitive verb, *ʔan*-CaCaC. However, the form *ʔan*CaCaC is not confined to intransitive (agentless) structures but occurs with both transitive and intransitive constructions (see §2). In SA, *ʔan*-CaCaC encodes only anticausative structures and is restricted to a particular set of roots, namely cause-unspecified roots<sup>38</sup>. However, this form, I argue, has become more productive in MA as it encodes a wider variety of agentless constructions from transitive counterparts. Thus, the presence/absence of *ʔan*- signifies transitivity alternations in MA.

In this chapter, I discuss transitivity alternations marked by the morpheme *ʔan*- in MA and classify the different agentless constructions encoded by *ʔan*- as anticausative, psych and passive

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<sup>37</sup> It is worth noting here that the form *ʔan*- is an abstraction used here to represent the various morpho-phonological realizations of this morpheme in MA.

<sup>38</sup> See §3.5.1.1 for a discussion of root types in MA

structures on the basis of four main diagnostics: adjunction of *by itself*, *from*-phrases, Agent-oriented adverbs and instrumental PPs. The analysis provided here shows that *ʔan*-syncretism in MA is both semantically determined and syntactically encoded. A distinction between the different agentless structures indicated by *ʔan*- appears to be semantically determined on the basis of whether or not the suppressed argument causes physical change, and the mental state and intentionality of this suppressed argument. I use the features [ $\pm c$ ] for the former and [ $\pm m$ ] for the latter, adopted from Reinhart (2002). These features are discussed in detail in §3.5 and §3.6. While passive constructions tend to be associated with intentional actions of human Agents<sup>39</sup>, anticausative constructions are linked to non-human Causers, which cannot act intentionally. These properties correspond respectively to the features [ $+c+m$ ] and [ $+c-m$ ] on the roots with which these arguments occur. Psych structures are associated either with intentional Actors that cause no physical change or with Stimuli that do not act intentionally and cause no physical change, which correspond respectively to the features [ $-c+m$ ] and [ $-c-m$ ] on the root. Results of the analysis of *ʔan*- agentless structures provide support for the proposals of different flavors of little *v* (Arad 1998; 2002; Alexiadou et al. 2006; McGinnis 2000; Van Gelderen 2014) and different root types (Embick 2004a; Alexiadou 2010; Alexiadou et al. 2006; Alexiadou et al. 2015).

My account for the different agentless structures encoded by *ʔan*- is cast within the framework of Distributed Morphology (Halle and Marantz 1993 and related work), according to which verb phrases are made up of roots and a categorizing head *v* that appears in different flavors and

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<sup>39</sup> I am using *human* rather than *animate* because the main division in Arabic seems to be between *human* and *non-human* entities. That is, nouns referring to non-human animates pattern with those referring to inanimate entities (see Chapter 1 §1.4.2.2).

introduces external arguments. Little *v* hosts the target morpheme *ʔan-* in agentless structures in MA.

I conclude that *ʔan*-syncretism in MA is a reflex of a common structural property, namely, the absence of an external argument. Moreover, my analysis of *ʔan*-syncretism highlights the interface between the encyclopedic semantics of the roots along with the structural semantics of the functional heads in determining the argument structure of a given predicate.

This chapter proceeds as follows: In §3.2 I introduce the most common structure encoded by *ʔan-* in MA, the passive structure that has presumably evolved as a result of absence of the apophonic passive structure in MA (among many other modern vernaculars of Arabic). Moreover, I shed light on the ambiguity of *ʔanCaCaC* verb forms that encode alternating and non-alternating constructions in MA. Then, I discuss the general properties of alternating *ʔan-* structures and their classification as unaccusative structures with derived (non-base-generated) external arguments. Three distinct *ʔan-* structures in MA, namely, passive, anticausative and psych, are differentiated in §3.3 on the basis of their compatibility with four diagnostics, *by itself*, *from*-phrases, instrumental PPs and Agent-oriented adverbs. In §3.4 I discuss the semantics of *ʔan-* verbs and show how they correlate with the syntactic behavior of these verbs. A theoretical framework on which I base my analysis of *ʔan-* structures is introduced in §3.5. Then, an account for *ʔan*-agentless constructions is provided in §3.6. Finally, §3.7 summarizes the main points discussed throughout the chapter along with the major findings.

## 3.2 *ʔan*- Structures in Arabic

In this section I introduce the passive structure in MA. Moreover, I shed light on the ambiguity of *ʔanCaCaC* verb forms that encode alternating and non-alternating constructions in MA. Then, I discuss the general properties of alternating *ʔan*- structures and their classification as unaccusative structures that lack syntactically-projected external arguments.

### 3.2.1 Passive Voice in MA

This section introduces the structure *ʔan-V* that encodes passive structures in MA. The apophonic passive does not exist in many modern vernaculars of Arabic, including MA. Comparing the passive structure in SA in (1b) with the passive structure in MA in (2b), we see that the apophonic structure in SA corresponds to the *ʔan-V* in MA. Just like SA, MA has relatively free word order. However, the inflectional morphology which marks case in SA does not appear in MA. This absence of overt case marking imposes a restriction on word order in complex structures in MA to avoid misinterpretations.

1. a. qatala                    r-raḡul-u            l-ḡa:ris-a            (Standard Arabic)  
      kill.PERF.3SG.M    DEF-man-NOM    DEF-guard-ACC  
  
      'The man killed the guard'

b. qutila                      l-ḥa:ris-u  
 was killed.3SG.M    DEF-guard-NOM

'The guard was killed'

2. a. al-ḥara:mi    gatal                      al-ḥa:ris                      (Makkan Arabic)  
 DEF-thief    kill.PERF.3SG.M    DEF-guard

'The thief killed the guard'

b. al-ḥa:ris    ʔangatal  
 DEF-guard    was killed

'The guard was killed'

We see in (2) that passive voice in MA is expressed through the form *ʔan*-V of the main verb. *ʔan*-V appears as one form of the verbs known as *ʔaffʔaalu lmuṭaawaʕa* 'amenable verbs' in SA (see Al-ateyah, 2004; Muhamad 2007), yet it has been extended to express passive structures in MA. While the apophonic structure is unambiguous as it is restricted to passive constructions only (Ingham 1986, Retsö 2005), the form, *ʔan*-CaCaC is ambiguous as it is used to express passive, anticausative, and psych constructions in MA. That is, unlike SA, MA does not have a dedicated passive form. It is worth stating here that *ʔan*-CaCaC passive structures are not confined to MA but are found in many modern vernaculars of Arabic (cf. Ingham 1986; Hallman 2000; Retsö 2005). The different types of *ʔan*-constructions are discussed in the following section.

### 3.2.2 The polysemy of *ʔanCaCaC* verb forms in MA

In this section I discuss *ʔanCaCaC* verb forms in Arabic, specifically in MA. This form encodes transitive and intransitive non-alternating structures besides a number of alternating agentless constructions, namely, passive, anticausative, and psych structures. To explore this issue, I will distinguish two main groups of verbs with the form *ʔanCaCaC* in MA, non-alternating and alternating *ʔanCaCaC* forms. It is the latter group that is considered in this study. The former group contains verbs that do not have counterpart forms without *ʔan-*.

3. a. ʔantašar                      al-maraḍ                                      (Intransitive )

spread.PERF.3SG.M    DEF-disease

'The disease spread'

b. \*tašar                      al-maraḍ

[unattested]    DEF-disease

4. a. ʔantaḡad                      al-ka:tib      al-kita:b                                      (Transitive)

criticize.PERF.3SG.M    DEF-writer    DEF-book

'The writer criticized the book'



b. al-kursi šagg al-fusta:n (Causative)

DEF-chair tear.PERF.3SG.M DEF-dress

'The chair tore the dress'

c. \*al-kursi ʔanšagg al-fusta:n

DEF-chair tear.PERF.3SG.M DEF-dress

Intended: 'The chair tore the dress'

6. a. al-walad ʔatqahar (SE Psych)<sup>40</sup>

DEF-boy feel upset.PERF.3SG.M

'The boy felt upset'

b. ar-riʒza:l gahar al-walad (OE Psych)

DEF-man upset.PERF.3SG.M DEF-boy

'The man upset the boy'

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<sup>40</sup> SE stands for subject experiencer psych verbs while OE stands for object experiencer psych verbs. The two types of psych verbs are discussed in detail in (§3.4).

- c. \*ar-riʒʒa:l ʔatgahar al-walad  
 DEF-man feel upset. PERF.3SG.M DEF-boy

Intended: 'The man upset the boy'

7. a. al-ḥa:ris ʔangatal (Passive)  
 DEF-guard was killed.3SG.M

'The guard was killed'

- b. al-ḥara:mi gatal al-ḥa:ris (Agentive)  
 DEF-thief kill. PERF.3SG.M DEF-guard

'The thief killed the guard'

- c. \*al-ḥara:mi ʔangatal al-ḥa:ris  
 DEF-thief was killed.3SG.M DEF-guard

Intended: 'The thief killed the guard'

The verbs in (5a, 6a, and 7a) have the same form *ʔan*-V. Nonetheless, these verbs do not relate to their transitive counterparts in the same way. That is, despite the fact that they all involve *ʔan*-, I argue that *ʔan*- structures in (5), (6) and (7) express different constructions. Sentence (5a) encodes

an anticausative construction (discussion of such a construction is provided in §3.4 below), (6a) expresses a psych construction, and (7a) expresses a passive construction (This supposition is supported by several diagnostics that will be discussed in subsequent sections).

The contrast shown between structures with and without *ʔan-* suggests that the target morpheme affects the argument structure of the verb by changing the verb to which it is affixed into a one-argument verb as is evident from the ungrammaticality of (5c), (6c) and (7c). Accordingly, *ʔan-* appears to be a valence-decreasing/argument-removing morpheme that encodes intransitive alternants of different transitive structures in MA (see Haspelmath and Müller-Bardey 2001 for discussion of valence decreasing morphemes).

It has become evident so far that *ʔan-* is directly associated with the suppression of an argument of the corresponding transitive alternant, and, thus, marks transitivity alternations<sup>41</sup>. I will now show that *ʔan-* constructions are syntactically unaccusative structures. The Unaccusative Hypothesis as proposed by Perlmutter (1978), within the framework of Relational Grammar, and later adopted by Burzio (1986) within the framework of Government-Binding (GB) (Chomsky 1981 and subsequent work) is a syntactic hypothesis that claims the existence of two subclasses of intransitive verbs, unergative verbs and unaccusative verbs (Levin & Rappaport Hovav 1995; Alexiadou et al. 2004).

For some, these two terms are used as semantic attributes. One of the proponents of the semantic approach to the unaccusative/unergative distinction is van Valin (1990). He argues that

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<sup>41</sup> This supposition is based on the premise that certain semantic roles are obligatorily externally merged as discussed in the rest of this section.

in unaccusative verbs an undergoer macro-role is assigned to the verb's argument while in unergative verbs an actor macro-role is assigned to the verb's argument. For him the notion undergoer is not equivalent to direct object. This approach denies that unaccusative/unergative distinction is syntactically encoded. For others, the unaccusative/unergative distinction has its foundation in syntax. This approach is adopted by Rosen (1984) who assumes that unaccusative verbs have underlying objects that surface as subjects in the course of a derivation while unergative verbs have underlying subjects. For still others the unaccusative/unergative distinction has both a semantic and syntactic component to them (see Levin & Rappaport Hovav 1995; Alexiadou et al. 2004).

I assume that unaccusativity is syntactically encoded and semantically determined. I associate the subject (external argument) with the doer<sup>42</sup> and the object (internal argument) with the undergoer<sup>43</sup>. Accordingly, the distinction between the unaccusative and unergative subclasses of verbs is based on the syntax of the sole argument of the intransitive verb. Verbs whose only argument is base-generated as an external argument (a doer) are unergative while verbs whose only argument is base-generated as an internal argument (an undergoer) are unaccusative (see Levin & Rappaport Hovav 1995; Alexiadou et al. 2004). Comparing the intransitive structure in (8) with the *ʔan*- structure in (9) highlights the unergative/unaccusative contrast.

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<sup>42</sup> The term doer is used in a general sense here to refer to the entity that initiates, performs or is directly responsible for the event expressed by the verb.

<sup>43</sup> This assumption is consistent with the premise that Agent and Causer are obligatorily externally merged while Patients and Themes are obligatorily internally merged (Everaert et al. 2012).

8. *na:m*                      *al-walad*

sleep. PERF.3SG.M    DEF-boy

'The boy slept'

9.    *ʔankasar*                *al-galam*

break. PERF.3SG.M    DEF-pen

'The pen broke'

While both verbs in (8) and (9) take one argument, they differ regarding the nature of this argument. The subject of the intransitive verb in (8) is a doer of the action expressed by the verb *na:m* 'slept' while the subject of the verb *ʔankasar* 'broke' in (9) is not the doer of the action/event expressed by the verb but rather an undergoer. Moreover, the structures in (5) through (7) above show that the subjects in the intransitive variants in (a) sentences correspond to the direct objects in the transitive structures in (b) sentences. Accordingly, *ʔan-* verbs are syntactically unaccusative<sup>44</sup> since the sole argument appearing with these verbs is an internal rather than an external argument.

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<sup>44</sup> *ʔan-*verbs are unaccusative in the structural sense that the external argument is not projected. Unaccusative syntax is found in both standard unaccusative verbs as well as in passives (see Embick 2004a).

Further support for the proposal that *ʔan*-verbs are unaccusative is provided by the corresponding participle structures of the sentences in (8) and (9) above. In Arabic, verbs correspond to one of two participle forms known as *ʔism al-fa:ʕil*<sup>45</sup> (the active participle) and *ʔism al mafʕu:l*<sup>46</sup> (the unaccusative participle). The existence of either form is dependent on whether the argument that appears with the verb is a subject (doer) or an object (undergoer). That is, in a given structure the verb can be replaced by a corresponding active participle form only if its argument is a true subject (base generated as an external argument) whereas it can be replaced with a corresponding unaccusative participle form only if its argument is an object (base generated as an internal argument) (Al-Khawalda 2011)<sup>47</sup>.

10. a. na:m                      al-walad  
       sleep. PERF.3SG.M    DEF-boy  
       'The boy slept'

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<sup>45</sup> Literally: the doer's nominal

<sup>46</sup> Literally: the undergoer's nominal

<sup>47</sup> Contra Al-Khawalda (2011) I do not assume that participles are nominalized forms of the verbs; rather, they constitute an autonomous category on their own (see Chapter 5 for a detailed discussion of participles).

b. al-walad na:yim

DEF-boy sleeping.AP.3SG.M

'The boy is sleeping'

11. a. ?ankasar al-galam

break. PERF .3SG.M DEF-pen

'The pen broke'

b. al-galam maksu:r

DEF-pen broken.UP.3SG.M

'The pen is broken'

The verb *na:m* 'slept' in (10a) corresponds to *na:yim* 'sleeping' (10b) following the template Ca:CaC for the active participle. On the other hand, the verb *?ankasar* 'broke' in (11a) corresponds to *maksu:r* 'broken' (11b) that correlates with the template maCCu:C for the unaccusative participle, and this form, according to Al-Khawalda (2011), appears with objects (internal arguments) in Arabic.

The next step is to apply the participle diagnostic to the different constructions expressed by *?an-* in MA, namely the anticausative, psych and passive structures, to determine if the grammatical subjects in these constructions are syntactically similar.

12. a. al-fusta:n ʔanšagg (Anticausative)

DEF-dress tear.PERF.3SG.M

'The dress tore'

b. al-fusta:n mašgu:g

DEF-dress torn.UP.3SG.M

'The dress is torn'

c. \*al-fusta:n ša:gig

DEF-dress cutting.AP.3SG.M

Intended: 'The dress is torn'

13. a. al-walad ʔangahar (Psych)

DEF-boy feel upset.PERF.3SG.M

'The boy felt upset'

b. al-walad maghu:r

DEF-boy mad.UP.3SG.M

'The boy is mad'

c. \*al-walad ga:hir

DEF-boy upset.AP.3SG.M

Intended: 'The boy is mad'

14. a. al-ḥa:ris ʔangatal (Passive)

DEF-guard was killed.3SG.M

'The guard was killed'

b. al-ḥa:ris magtu:l

DEF-guard killed.UP.3SG.M

'The guard is killed/dead'

c. \*al-ḥa:ris ga:til

DEF-guard killing.AP.3SG.M

Intended: 'The guard is killed'

The constructions in (12a, 13a, and 14a) above express, I argue, anticausative, psych and passive structures, respectively (this classification will be fully justified in the subsequent section). In (12) *ʔanšagg* 'tore' corresponds to *mašgu:g* 'in the state of being torn', in (13) *ʔangahar* 'got upset' corresponds to *maghu:r* 'in the state of being mad', and in (14) *ʔangatal* 'killed' corresponds to *magtu:l* 'in the state of being dead'. These participle forms are mapped to the template maCCu:C for the unaccusative participle and are incompatible with the form Ca:CaC for the active participle as exhibited by the ungrammaticality of the sentences in (12c, 13c and 14c) above. Given that the correlate participle form for a verb in Arabic corresponds to the syntactic structure of its argument (Al-Khawalda 2011), I conclude that the structural subjects in *ʔan-* structures are not logical subjects. That is, the structural subjects in anticausative, passive and psych structures in MA are base generated as internal rather than external arguments and then undergo movement to [Spec, TP] to surface as structural subjects.

To sum, this section discusses the nature of the morpheme *ʔan-* in MA and how it affects the argument structure of the verb to which it is affixed. It has become clear so far that *ʔan-* is an external-argument-removing morpheme<sup>48</sup>. Moreover, *ʔan-*verbs have been shown to generally encode unaccusative structures in MA, structures in which the structural subject is not the logical subject of the verb. Anticausative structures have been introduced as one of the unaccusative

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<sup>48</sup> Haspelmath and Müller-Bardey (2001) refer to such morphemes as agent-removing (or subject-removing) morphemes but I prefer the term external-argument-removing morpheme since the target morpheme *ʔan-* indicates suppression of the external argument regardless of its being an Agent, Causer or Stimulus as will become clear in subsequent sections.

structures derived with *ʔan-* in MA. Other structures that are derived with the same morpheme are passive and psych constructions as will be shown in the subsequent section. Having discussed the general properties of *ʔan-* structures, I will proceed, in the next section, to the diagnostics employed to distinguish the different agentless structures encoded with *ʔan-* in MA.

### 3.3 Passive voice and related structures (*ʔan-* Syncretism) in MA

Having explained the function of the morpheme *ʔan-* and the general classification of *ʔan-* structures as unaccusatives, I turn now to the diagnostics that distinguish the different syntactic structures derived with *ʔan-* in MA. My main point here is that the same morpheme, *ʔan-*, marks anticausative, psych, and passive structures in MA, a phenomenon I will be referring to as *ʔan-* syncretism.

The diagnostics employed cross-linguistically to identify anticausative, psych, and passive constructions are numerous, however, they are subject to language-specific rules. Diagnostic tests that work for one language might be inapplicable in another, thus, what applies in one language might not necessarily be generalized to another (Halm 2012). In differentiating *ʔan-* structures I start by drawing a distinction between anticausative and passive structures.

To differentiate anticausatives from passives in MA, I use the phrase *binafsu* 'by x-self', where x corresponds to the person, number and gender features of the single argument of the main verb in *ʔan-V* constructions. *By itself* is a well-established diagnostic test for anticausatives in several

languages including English<sup>49</sup> (Levin and Rappaport Hovav 1995; Alexiadou et al 2006; 2015, among others) and Hebrew (Alexiadou & Doron 2012). As shown in (15) below this diagnostic phrase appears with the construction I specify as anticausative (15a) and is incompatible with the structure I specify as passive (15b).

15. a. al-fusta:n    ʔanšagg                    bi-nafs-u<sup>50</sup>  
 DEF-dress    tear. PERF.3SG.M    by-self -3SG.M

'The dress tore by itself'

b. \*al-ħa:ris    ʔangatal                    bi-nafs-u  
 DEF-guard    was killed.3SG.M    by-self -3SG.M

'The guard was killed by himself'

Justification for such a distinction arises logically from the meaning of the phrase *binafsu* 'by itself' which confines the action expressed by the main predicate and its effect to the argument that appears with the main verb and excludes the role of any external entity (Levin and Rappaport

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<sup>49</sup> While the phrase *by itself* is ambiguous between two different readings in English, namely (1) *alone* and (2) *no particular cause* (see Levin & Rappaport Hovav 1995; Embick 2004a; Alexiadou et al. 2015), its meaning is basically confined to the absence of an external cause in MA.

<sup>50</sup> The same citation form *binafsu* means 'by himself' or '*by itself* (masculine)' in MA.

Hovav 1995). Since the action in passive constructions is attributed completely to an implicit agent rather than an existing patient, incompatibility of the phrase *binafsu* 'by itself' with passives follows from this (cf. Alexiadou et al. 2006; 2015).

Passive voice structures are known to be incompatible with agentive *by*-phrases in Arabic as the passive construction is generally used to suppress the agent argument and avoid any mention of it (Suleiman 1998; Budarfi et al. 2004; Muhamad 2007; Mahdi 2011, among many others). Consequently, agentive *by*-phrases cannot be used as a diagnostic for passive structures in Arabic. Nonetheless a distinction between passive vs. anticausative constructions can be built on the basis of compatibility with a *from*-phrase (a causer PP)<sup>51</sup>. According to Alexiadou (2010), anticausatives but not passives are compatible with a *from*-phrase (see also Alexiadou et al. 2006; Alexiadou & Doron 2012, among others).

The sentences in (16) show that a *from*-phrase can be added after the verb *ʔatšagg* 'tore' which I classify as anticausative whereas addition of the same phrase after the passive form, *ʔangatal* 'killed', results in an ungrammatical structure (see 17).

16. a. al-fusta:n ʔatšagg  
DEF-dress tear.PERF.3SG.M  
  
'The dress tore'

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<sup>51</sup> Following Kallulli (2006 a) and Alexiadou (2014b), I will refer to such prepositional phrases as a *from*-phrase rather than *causer PP* since usage of this phrase is not restricted to introducing causers in MA but is well-attested with stimulus arguments as well (as will be shown in subsequent parts of this same section).

b. al-fusta:n ʔatšagg min al-kursi

DEF-dress tear. PERF.3SG.M from DEF-chair

'The dress tore from the chair'

17. a. al-ḥa:ris ʔangatal

DEF-guard was killed

'The guard was killed'

b. \*al-ḥa:ris ʔangatal min al-ḥara:mi

DEF-guard was killed.3SG.M from DEF-thief

'The guard was killed by the thief'

The diagnostics discussed so far, *by itself* and the *from*-phrase, distinguish anticausative structures from passives. Two more diagnostics that apply to passive structures are introduced below.

An important characteristic of passive structures is the presence of an implicit Agent (Alexiadou & Schäfer 2006; Alexiadou 2014b; Alexiadou et al 2006; 2015, among others). Existence of such an argument can be detected via different diagnostics of which I select agent-oriented adverbs<sup>52</sup> and instrumental PPs as they are applicable to MA. As exemplified below both diagnostics are compatible with the *ʔan*- structure I specify as passive (18) and incompatible with the anticausative structure (19). The incompatibility of agent-oriented diagnostics with anticausative structures follows from lack of implicit agents in these structures (cf. Alexiadou et al. 2006; 2015).

18. a. al-ħa:ris    ʔangatal            bilʕinya / ʕan ɢaʃd  
 DEF-guard    was killed.3SG.M    intentionally

'The guard was killed intentionally'

b. al-ħa:ris    ʔangatal            bi-sakki:n  
 DEF-guard    was killed.3SG.M    with-knife

'The guard was killed with a knife'

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<sup>52</sup> Such adverbs, I assume, are actually oriented towards the [+m] feature of the Agent argument as will become clear in (§ 3.5 and §3.6 below). Meanwhile, I will be referring to them as agent-oriented adverbs for ease of reference.

19. a. \*al-fusta:n ʔatšagg bilʕinya / ʕan gašd<sup>53</sup>

DEF-dress tear. PERF.3SG.M intentionally

'The dress intentionally tore'

b. \*al-fusta:n ʔatšagg bi-l-musma:r

DEF-dress tear. PERF.3SG.M with- DEF-nail

'The dress tore with a nail'

So far, passive structures have been set apart from the anticausative structures in MA. Of the four diagnostics considered, passive structures are compatible with agent-oriented adverbs and

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<sup>53</sup> The sentences in (19a & b) can be grammatical if they have passive rather than anticausative reading. That is, if they alternate with the transitive structure in (i) rather than the one in (ii) below (see §3.4 & §3.6 of this chapter).

(i) al- walad šagg al-fusta:n (Agentive)

DEF-boy tear.PERF.3SG.M DEF-dress

'The boy tore the dress'

(ii) al- musma:r šagg al-fusta:n (Causative)

DEF-nail tear.PERF.3SG.M DEF-dress

'The nail tore the dress'

instrumental PPs while anticausative structures are compatible with *by itself* and *from*-phrases. Such patterns conform to the cross-linguistic syntactic behavior of passives and anticausatives (cf. Kallulli 2006a; Alexiadou 2010; 2014b; Alexiadou & Doron 2012 among others cited here). A summary of the diagnostics with anticausative and passive structures is provided in table 15.

**Table 15: Compatibility of anticausative and passive structures with different diagnostics**

The structure	<i>By itself</i>	<i>From</i> -phrase	Agent-oriented Adverb	Instrumental PP
ʔatšagg'tore' Anticausative	√	√	X	X
ʔangatal 'was killed' Passive	X	X	√	√

Having distinguished passives from anticausatives, I will now consider the psych structures. In what follows I will show how these structures exhibit a pattern that is distinct from anticausative and passive structures in their compatibility with the four diagnostics used so far, *by itself*, *from*-phrases, agent-oriented adverbs, and instrumental PPs.

20. *by itself*

\*al-walad    ʔatqahar                      bi-nafs-u                      (Psych)

DEF-boy    get upset.PERF.3SG.M    by-self -3SG.M

'The boy got upset by himself'

21. *from-PP*

al-walad    ʔatqahar                      min    r-riʒza:l                      (Psych)<sup>54</sup>

DEF-boy    get upset.PERF.3SG.M    from    DEF-man

'The boy felt upset from the man'

22. *Agent-oriented Adverb*

\*al-walad    ʔatqahar                      bilʕinya / ʕan gaʒd                      (Psych)

DEF-boy    get upset.PERF.3SG.M    intentionally

'The boy got upset intentionally'

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<sup>54</sup> A *from-PP* is compatible with *ʔan-* psych structures that alternate with the Stimulus-reading rather than the Actor-reading transitive psych structures (see §3.4 below for detailed discussion of the two readings).

23. Instrumental PP

\*al-walad ʔatgahar bi-ʕu:d (Psych)

DEF-boy feel upset.PERF.3SG.M with-stick

'The boy got/felt upset with a stick'

The data above show that psych structures exhibit a syntactic behavior that is distinct from anticausatives and passives. A summary of the four diagnostics with the three constructions is provided in table (16):

**Table 16: Compatibility of ʔan- structures with different diagnostics**

The structure	<i>By itself</i>	<i>From-phrase</i>	Agent-oriented Adverb	Instrumental PP
ʔatšagg 'tore' Anticausative	√	√	X	X
ʔatgahar 'felt upset' Psych	X	√	X	X
ʔangatal 'was killed' Passive	X	X	√	√

The unified morphology for anticausatives, psych and passive structures in MA is not surprising as such a phenomenon is known as a cross-linguistically common syncretism, "cases of identical morphological realization in distinct syntactico-semantic contexts" (Embick 2004a:138). According to Embick, such syncretism exists as a result of the morphology being sensitive to the absence of an external argument. He specifies such syncretism as “**Voice Syncretisms:** Situations in which distinct syntactic alternations (e.g. passive and reflexive) are realized with identical morphology” (Embick 1998: 43, see also Amberber 2000; Doron 2003a; Embick 2004a; Alexiadou & Doron 2012, among others cited in this dissertation). Provided that *ʔan*-structures share some particular properties like lack of an external argument and the selection of internal argument as a structural subject, an important question arises as to whether *ʔan*- verbs that behave as anticausatives, Object Experiencer (OE) psych, and passives do so as a result of their semantics. That is, can the syntactic behavior of the verb be determined by its semantic properties? This question is to be pursued in the following section where a distinction between the target constructions is to be made on the basis of the categories of *ʔan*-verbs.

### **3.4 Categories of *ʔan*-verbs: syntax-semantics interface**

In this section I shed light on the semantics of *ʔan*- verbs<sup>55</sup> and how they correlate with the syntactic behavior of these verbs. I assume that transitivity alternations in MA, besides being syntactically

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<sup>55</sup> As will become clear in the theoretical section (§3.5), *ʔan*-verbs are actually verbal structures consisting of category-neutral roots that carry the semantic component of the verbal structure and categorizing patterns that provide the grammatical component to the root. Abstraction from these structural details is obtained here for the sake of providing a descriptive account of *ʔan*-verbs.

encoded, are semantically determined. Thus, this section focuses on the semantic properties of the verbs involved in *ʔan-* structures and how these properties determine the syntactic behavior of the verbs. Such a syntax-semantics interface has been proposed by Al-Hannash (1986) who states that the structure resulting from converting the verb into the form *ʔanCaCaC* differs according to the semantic properties of the verb. Moreover, Levin and Rappaport Hovav (1995) assert that the verb meaning plays a major role in determining the syntactic structures of sentences (see also Alexiadou 2010; Embick 2004a; 2010).

My discussion of the categories of *ʔan-* verbs revolves around four thematic relations (semantic roles<sup>56</sup>) associated with the external argument of verbs. Focusing specifically on verbs that undergo transitivity alternation with *ʔan-*, I define these four roles as follows:<sup>57</sup>

- **Agent:** initiator of the action expressed by the verb. Agents are basically human volitional arguments.
- **Causer:** the entity that causes the action to take place.
- **Actor:** the entity that deliberately provokes particular sensory feeling or emotional reaction. This role is associated with psych-verbs and it is assigned to human volitional arguments, thus an actor is basically an intentional entity.

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<sup>56</sup> Following Levin and Rappaport Hovav (2005), I use the term semantic roles for the semantic relations (thematic relations). This term is used interchangeably with thematic roles ( $\theta$ -roles) throughout this dissertation.

<sup>57</sup> It will be argued in subsequent sections that these roles are (defined in terms of two features, [ $\pm$ c]ause change and [ $\pm$ m]ental state, and that they are determined by both the root and *v*.

- **Stimulus:** the entity that evokes particular sensory feeling or emotional reaction. This role is associated with psych-verbs and it can be assigned to nonvolitional arguments that can be human or non-human, thus, a stimulus is basically a non-intentional entity.

The boundaries between Agents and Causers are somehow fuzzy in many languages e.g. English, yet a distinction between the two is syntactically relevant (see Alexiadou & Schäfer 2006; Folli & Harley 2008; Alexiadou et al. 2015<sup>58</sup>). In MA, a distinction between the two semantic (thematic) roles of Agent and Causer is a straightforward one as Causers are confined to non-human, nonvolitional arguments. The roles associated with psych-verbs, Actor and Stimulus, differ in whether the emotional reaction expressed by the psych-verb is triggered deliberately (by an Actor) or results without premeditation (by a Stimulus) (further discussion of the two roles, their semantics and the constructions they appear on is provided below).

As shown earlier, affixation of the morpheme *ʔan-* onto transitive verbs induces a change in the verbs' argument structure by converting transitive verbs into intransitive ones. The data presented in (5) through (7) above (repeated in (24) through (26) below) shows that anticausative, psych, and passive verbs alternate with the transitive verbs, *shagg* 'tore', *gahar* 'upset' and *gatal* 'killed', respectively.

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<sup>58</sup> Alexiadou et al. (2015) assumes that Causers name causing events rather than being a thematic relation, but I assume that Causer is a thematic relation with distinct specification.

24. a. al-fusta:n ʔanšagg (Anticausative)

DEF-dress tear. PERF.3SG.M

'The dress tore'

b. al-kursi šagg al-fusta:n

DEF-chair tear. PERF.3SG.M DEF-dress

'The chair tore the dress'

25. a. al-walad ʔatgahar (Psych)

DEF-boy feel upset. PERF.3SG.M

'The boy felt upset'

b. ar-riʒza:l gahar al-walad

DEF-man upset.PERF.3SG.M DEF-boy

'The man upset the boy'

26. a. al-ħa:ris ʔangatal (Passive)

DEF-guard was killed.3SG.M

'The guard was killed'

- b. al-ḥara:mi    gatal                      al-ḥa:ris
- DEF-thief      kill. PERF.3SG.M    DEF-guard
- 'The thief killed the guard'

The verb *shagg* 'tore' in (24b) signifies a change of state of the affected object, *alfustaan* 'the dress'. Moreover, this verb takes a Causer (non-human, nonvolitional) external argument. Affixation of *ʔan-* onto this verb results in an anticausative construction (24a). Consequently, I propose that *ʔan-* encodes anticausatives with verbs that indicate a change of state and select a Causer external argument. Such verbs include *shagg* 'tore' *kasar* 'broke', *gaṭaʕ* 'cut' and *fataḥ* 'opened'. This is by no means an attempt to provide an exhaustive list of anticausative verbs in Arabic as such a step is beyond the scope of the present study, but, rather, an attempt to shed light on the basic characteristics of the class of verbs that encode anticausative structures in MA. Support for my assumption is provided by Levin and Rappaport Hovav (1995). They state that verbs of change of state like *break* and *open* as well as their counterparts in other languages are prototypical anticausatives (which they refer to as *alternating unaccusatives*)<sup>59</sup>. Moreover, they note the cross-linguistic tendency of such verbs to participate in causative alternations. They also state that while the causative alternation is expressed by the same verb form in some languages, it is characterized

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<sup>59</sup> Levin and Rappaport Hovav (1995) do not use the term 'anticausative' but refer instead to two types of unaccusative verbs, alternating and non-alternating unaccusatives.

by morphologically related forms of the verb in other languages, which, I assert, is the case in Arabic.

Unlike English where a change of state verb appears in the same form in both transitive (causative) and anticausative constructions, Arabic encodes the anticausative alternants through morphological modification of the transitive verbs, i.e. through the affixation of *ʔan-*. When verbs of change of state appear with *ʔan-* in MA, the action they denote comes about independently. The verbs *ʔanšagg* 'tore', *ʔankasar* 'broke', *ʔangataʕ* 'cut', and *ʔanfataħ* 'opened' express a change that can come about independently and spontaneously without the volitional intervention of an agent. Such verbs are classified by Levin and Rappaport Hovav (1995) as internally-caused verbs. According to them, internally-caused verbs do not imply the existence of an external cause since the change is perceived of as being initiated by the single argument in response to an external effect. Hence, the compatibility of these verbs with *by itself*:

27. al-fusta:n ʔanšagg                      bi-nafs-u  
DEF-dress tear. PERF.3SG.M    by-self -3SG.M

'The dress tore by itself'

This same group of *ʔan-* verbs, namely, *šagg* 'tore', *kasar* 'broke', *gataʕ* 'cut' and *fataħ* 'opened', can be externally-caused by an Agent (28a) in MA. In (28b) we see that the verb *ʔankasar* 'broke' is incompatible with a *from*-phrase in its passive reading, while it can take a *from*-phrase in its anticausative reading (29b). The verb *ʔankasar* 'broke' is compatible with an instrumental PP and agent-oriented adverbs only in its passive reading (28c & d). Thus, *ʔankasar* 'broke' can be passive

or anticausative. The interpretation is determined contextually on the basis of whether the event is understood as being initiated by an Agent or Causer.

28. a. al-walad kasar al-ba:b  
DEF-boy break.PERF.3SG.M DEF-door

'The boy broke the door'

b. \*al-ba:b ?ankasar min al-walad  
DEF-door break. PERF.3SG.M from/by DEF-boy

'The door broke from the boy'

c. al-ba:b ?ankasar bi-l-miṭraḡa  
DEF-door break. PERF.3SG.M with- DEF-hammer

'The door was broken with a hammer'

d. al-ba:b ?ankasar bilʕinya / ʕan gaṣd  
DEF-door break. PERF.3SG.M intentionally or deliberately

'The door was intentionally broken'

29. a. al-hawa    kasar                            al-ba:b  
 DEF-wind   break.PERF.3SG.M   DEF-door

'The wind broke the door '

b. al-ba:b    ʔankasar                            min    al-hawa  
 DEF-door   break. PERF.3SG.M   from/by   DEF-wind

'The door broke from the wind'

The group of *ʔan*-verbs discussed so far, namely, *ʔanshagg* 'tore', *ʔankasar* 'broke', *ʔangataʕ* 'cut', and *ʔanfataħ* 'opened' can denote internally-caused change of state events as evidenced by their compatibility with *binafsu* "by itself" or denote externally-caused change by an Agent, thus, building on Alexiadou (2010) and Alexiadou et al. (2006), I classify them as cause-unspecified verbs.

Some points are worth emphasizing here. First, the anticausative reading is the default reading with this group of *ʔan*- verbs unless the other reading (the passive reading) is clearly indicated in the context. Second, anticausatives are alternating unaccusatives. There are two subtypes of unaccusative verbs, namely, non-alternating and alternating unaccusative verbs (see Amberber 2000; Sailor & Ahn 2010; Alexiadou et al 2015). Non-alternating unaccusative verbs are unaccusative verbs that do not have transitive counterparts (e.g. *die* and *arrive*). Alternating unaccusatives, on the other hand, are unaccusative verbs that have transitive (causative) counterparts. While the former verbs are referred to as basic, true, or pure unaccusatives the latter

are referred to as anticausatives (cf. Haspelmath 1993; Kallulli 2006a; Sailor & Ahn 2010; Alexiadou et al. 2015). *ʔan-* encodes derived unaccusatives (anticausatives) but is incompatible with basic unaccusatives in Arabic. That is, inherently unaccusative verbs like *wiʃil* 'arrived' and *ma:t* 'died' never appear with *ʔan-*, neither do they enter causative (transitivity) alternations in MA which conforms to the typical behavior of basic unaccusatives in general (cf. Levin & Rappaport Hovav 1995; Alexiadou et al. 2015 among others cited here). According to Rappaport Hovav (2005), anticausatives exhibit a tendency to be morphologically marked with the same morpheme as middles and passives, a tendency well-attested in Indo-European and Semitic languages, and this is exactly the case in MA.

The usage of *ʔan-* discussed so far with verbs of change of state is not specific to MA as it is well attested in SA. What is innovative in MA is that *ʔan-* has come to be used with action verbs like *gatal* 'kill' to encode passive structures. This verb, along with the other verbs that pattern with it, namely *sarag* 'stole', *xataf* 'kidnapped', and *ʃazan* 'imprisoned', are agentive verbs (they depict volitional action of a human agent (30a) and are incompatible with non-human subjects (30b). This provides clues to the class of verbs that encode passive structures with *ʔan-*. According to Levin and Rappaport Hovav (1995), verbs in which the eventuality cannot come about spontaneously without the intervention of animate volitional and intentional Agent as a subject cannot be detransitivized. That is, the subject of such verbs cannot be suppressed altogether but it remains implicit<sup>60</sup>. They classify this group as externally-caused verbs and distinguish them from the internally-caused verbs discussed with anticausative constructions above.

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<sup>60</sup> I follow Legate (2012) and Alexiadou et al. (2015) (among others) in assuming that the implicit agent is existentially bound.

30. a. al-ḥara:mi    gatal                    al-ḥa:ris  
 DEF-thief    kill.PERF.3SG.M    DEF-guard

'The thief killed the guard'

b. \*al-maraḍ    gatal                    al-ḥa:ris  
 DEF-disease    kill. PERF.3SG.M    DEF-guard

'The disease killed the guard'

When these verbs appear with *ʔan-*, the external argument is suppressed, yet the eventuality is still understood as being dependent on the volitional intervention of human intentional Agent which results in the passive interpretation. As discussed earlier, this group of *ʔan-*verbs is incompatible with *by itself* (31a) and a *from*-phrase (31b) but can appear with an instrumental PP (31c) and the agent-oriented adverbs like *intentionally* (31d) which justify their classification as agentive verbs.

31. a. \*al-ḥa:ris    ʔangatal                    bi-nafsu  
 DEF-guard    was killed.3SG.M    by-self -3SG.M

'The guard was killed by himself'

b. \*al-ḥa:ris      ʔangatal                  min                  al-ḥara:mi

DEF-guard      was killed.3SG.M      from/by      DEF-thief

'The guard was killed by the thief'

c. al-ḥa:ris      ʔangatal                  bi-sakki:n

DEF-guard      was killed.3SG.M      with-knife

'The guard was killed with a knife'

d. al-ḥa:ris      ʔangatal                  bilʕinya / ʕan ɢaʕd

DEF-guard      was killed.3SG.M      intentionally

'The guard was killed intentionally'

Having discussed the verbs that encode anticausative and passive structures in MA, I now turn to the verbs encoding psych structures, psych verbs. Psych-verbs, verbs denoting mental states, have been subject to debate due to their aspectual ambiguity between states and events (Arad 1998; 2002; Alexiadou and Iordăchioaia 2014). This class of verbs has been conceived of as forming a special grammatical class with particular characteristics that are not found with other verb classes (Arad 2002; Alexiadou and Iordăchioaia 2014). Psych verbs fall into two main groups, namely, object experiencer psych verbs and subject experiencer psych verbs (for some references cf.

Belletti & Rizzi 1988; Grimshaw 1990; Pesetsky 1995). Both groups exist in MA as shown below.

I. Object Experiencer (OE) psych verbs

These are transitive verbs with experiencer internal arguments. Such verbs have intransitive (derived) subject experiencer (SE) alternants that are morphologically marked with *ʔan-*.

32. a. ar-riʒza:l gahar                      al-walad  
DEF-man upset.PERF.3sg.m def-boy

'The man upset the boy'

- b. al-walad ʔatgahar  
DEF-boy feel upset.PERF.3SG.M

'The boy got/felt upset'

## II. Subject Experiencer (SE) psych verbs

These are intransitive verbs with experiencer external arguments. They have transitive (derived OE) alternants that are morphologically marked via germination of a consonant in the root<sup>61</sup>.

33. a. al-walad xa:f (min ar-ri3za:l)

DEF-boy fear. PERF.3SG.M from DEF-man

'The boy was afraid of the man'

b. ar-ri3za:l xaw.waf al-walad

DEF-man frighten. PERF.3SG.M DEF-boy

'The man frightened the boy'

With type (I) psych-verbs, it is the intransitive (SE) alternant that is morphologically marked whereas with type (II) psych-verbs the transitive alternant is the marked one. As both verb classes have morphologically marked alternants, the SE/OE distinction is not sufficient to differentiate the two classes. Rather, I will refer to each class according to its unmarked alternant. Thus, I refer to

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<sup>61</sup> Gemination of the medial consonant of the root is a well-known transitivity procedure in Arabic that is not specific to experiencer structures but applies to intransitive structures in general (see Al-Koofi 1989; Hasan 1973; Al-Anbari 1997).

the former psych-verbs as “transitive OE” and to the latter as “intransitive SE” and to their alternants as marked intransitive SE and marked transitive OE, respectively. Since I am concerned with transitivity alternations encoded with the morpheme *ʔan-*, I will focus on the transitive OE verbs for the rest of this study.

Psych-verbs like *gahar* ‘upset’ and *baṣaṭ* ‘satisfied’ occur with either a human Actor or with Stimulus which can be human or non-human in MA as shown in the following examples:

34. a. ar-riʒza:l gahar al-walad  
 DEF-man upset. PERF.3SG.M DEF-boy

'The man upset the boy'

b. al-mawgif gahar al-walad  
 DEF-situation upset. PERF.3SG.M DEF-boy

'The situation upset the boy'

The sentence in (34a) is ambiguous between Actor-reading and Stimulus-reading<sup>62</sup>. The subject *arriʒza:l* 'the man' can be understood as acting on purpose to upset the boy and, thus be interpreted

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<sup>62</sup> Arad (1998; 2002) refers to these two different readings of psych constructions as Agentive and Eventive, respectively. Here I use Actor-caused and Stimulus-caused instead to avoid confusion in using the term ‘eventive’ as both constructions are eventive.

as an Actor. Such an interpretation can be enforced by adding adverbs like *bilʕinya/ʕan-qaʕd* 'deliberately/intentionally':

35. a. ar-riʕza:l    bilʕinya                      gahar                      al-walad  
 DEF-man    on purpose/deliberately    upset.PERF.3SG.M    DEF-boy

'The man deliberately upset the boy'

b. ar-riʕza:l    gahar                      al-walad    ʕan qaʕd  
 DEF-man    upset.PERF.3SG.M    DEF-boy    intentionally

'The man intentionally upset the boy'

The other possible reading for the same structure in (34a) is a Stimulus-reading in which it is something about the man that triggers the mental state of the boy (being upset). In this case the triggering of the mental state of the experiencer (the boy) is neither volitional nor under the control of the man which is understood, in such case, to be a Stimulus (see Arad 1998; 2002). Psych structures with non-human external arguments (34b) are not ambiguous in the same way as they have only a Stimulus-reading but not an Actor-reading.

In both sentences in (34) the experiencer, *alwalad* 'the boy' experiences a mental state in reaction to an Actor or Stimulus *arriʕza:l* 'the man in (34a) and *almawǧif* 'the situation' in (34b). As stated earlier, when the target morphology, *ʕan-*, appears with psych-verbs, it encodes the

Object Experiencer (OE)/Subject Experiencer (SE) alternation as exemplified in (36) below. Such an alternation is common in languages like Greek and Romanian (see Alexiadou & Iordăchioaia 2014).

36. a. ar-ri33a:l gahar al-walad (object experiencer)  
DEF-man upset. PERF.3SG.M DEF-boy

'The man upset the boy'

b. al-walad ʔatgahar (subject experiencer)  
DEF-boy feel upset.PERF.3SG.M

'The boy got/felt upset'

*ʔan-* appears with some but not all psych-verbs. Recall that *ʔan-* is also the non-active morphology that marks passive and anticausative constructions in MA. Given that psych alternation is indicated in Greek and Romanian the same way as anticausatives, the syncretism found in MA between passive, anticausative and psych verbs is in line with the pattern attested with other languages.

*ʔan-*psych-verbs are incompatible with *by itself*, the adverb *intentionally* and instrumental PPs regardless of their being alternants of Actor or Stimulus transitive psych verbs<sup>63</sup> as shown in the

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<sup>63</sup> Despite the fact that Actors are intentional entities, Actor-based *ʔan-* psych verbs are incompatible with the adverb *intentionally*. Such incompatibility is to be justified in light of the [+m] feature of the Experiencer (see §3.6.3).

following examples (See Alexiadou & Iordăchioaia 2014 for similar findings in Greek and Romanian).

37. a. \*al-walad    ʔatgahar                    bi-nafsu  
DEF-boy        get upset.PERF.3SG.M    by-self -3SG.M

'The boy got upset by himself'

b. \*al-walad        ʔatgahar                    bilʕinya / ʕan gaʕd  
DEF-boy        feel upset.PERF.3SG.M    intentionally

'The boy intentionally got/felt upset'

c. \*al-walad        ʔatgahar                    bi-ʕu:d  
DEF-boy        feel upset. PERF.3SG.M    with-stick

'The boy got/felt upset with a stick'

On the other hand, ʔan-psych verbs are felicitous with *from*-phrase:

38. al-walad    ʔatqahar                    min            ar-riʒza:l/ al-mawqif  
 DEF-boy    get upset.PERF.3SG.M    from/by    DEF-man/ DEF-situation

'The boy felt upset from the man/the situation'

*arriʒza:l* 'the man' in (38) is a Stimulus rather than an Actor. This assumption is based on the following data that shows that *from*-phrase is licit with the predicate *ʔankasar* 'break' when the subject argument is non-human nonvolitional/unintentional, Causer, (39) while the same phrase is illicit with the same predicate when the subject is a human volitional/intentional entity, Agent, (40). Given that a *from*-phrase is compatible with human arguments as in (38), it is clear that incompatibility of *from*-phrases with Agents has nothing to do with the humanness property of the argument, rather it has to do with the volitional/intentional property. Since the Stimulus but not the Actor is a nonvolitional/unintentional entity, I conclude that *arriʒza:l* 'the man' in (38) above is a Stimulus.<sup>64</sup>

39. a. al-hawa    kasar                    al-ba:b  
 DEF-wind    break. PERF.3SG.M    DEF-door

'The wind broke the door'

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<sup>64</sup>Theoretical support for this conclusion is based on the association of a *from*-phrase with the feature [-m] (see §3.6.3 below).

b. al-ba:b   ʔankasar                   min       al-hawa  
DEF-door   break.PERF.3SG.M   from/by   DEF-wind

'The door broke from the wind'

40. a. al-walad   kasar                           al-ba:b  
DEF-boy    break.PERF.3SG.M   DEF-door

'The boy broke the door'

b. \*al-ba:b   ʔankasar                   min       al-walad  
DEF-door   break.PERF.3SG.M   from/by   DEF-boy

'The door broke from the boy'

*ʔan*-psych verbs exhibit a pattern distinct from passive and anticausative constructions regarding the compatibility with the different diagnostics, *by itself*, *from*-phrases, *intentionally*, and instrumental PPs. Given that, along with the premise that emotions signify affectedness which is a central feature of middle constructions (see Saeed 2011), we can consider *ʔan*-psych-verbs middle structures<sup>65</sup>. According to Saeed (2011) middles are associated in some languages with

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<sup>65</sup> I will keep referring to such structures as psych structures throughout this dissertation.

verbs expressing activities in which emotions are involved. This is the case in MA where *ʔan-* psych verbs conform to a central requisite of middle structures, inclusion of emotion.

To sum, *ʔan-* occurs with three types of verbal structures in MA<sup>66</sup>:

- 1- With cause-unspecified verbs like *break*, *open*, and *tear*, *ʔan-* encodes anticausative constructions.
- 2- With agentive (externally-caused) change of state verbs like *kill*, *steal*, and *kidnap*, *ʔan-* encodes passive structures.
- 3- With OE psych-verbs like *upset*, *satisfy*, and *embarrass*, *ʔan-* encodes marked intransitive SE psych structures.

The distinction between the different external argument-less constructions indicated by *ʔan-* can be made on the basis of the humanness of the suppressed external argument and the intentional vs. unintentional nature of the action depicted by the verb. Hence, we get passive structures with verbs that indicate intentional actions and occur with Agents whereas anticausative structures are associated with non-human Causers. Psych structures, on the other hand, are associated with intentional human Actors or with non-intentional Stimuli (both are generally conceived of as being less volitional than Agents).

Having discussed the different agentless constructions coded with *ʔan-*, their classification and descriptive semantics, the following section introduces the theoretical paradigm upon which the syntactic analysis of *ʔan-* constructions is built.

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<sup>66</sup> As the semantics of the verbal structures is determined by the consonantal roots, these types of verbal constructions can be narrowed down to root types as shown in subsequent parts of this chapter.

### **3.5 Theoretical account for *ʔan*- Structures**

In this section I discuss the basic components of the VP, the root and the functional head *v*. Then, I introduce my proposals for root types and semantic roles in MA. I show how the argument structure of a given predicate is determined by features on both the root and the functional head *v*. Finally, I specify the different functional projections in verbal structures.

#### **3.5.1 The internal structure of VP**

The shared morphology between passive, anticausative, and psych structures is not surprising as such syncretism is well-documented within the Semitic language family, e.g. Hebrew (Doron 2003a) and Amharic (Amberber 2000). It is also found in unrelated languages such as Albanian (Levin and Rappaport Hovav 1995; Kallulli 2006a; Alexiadou et al. 2015) and Greek (Embick 2004a, Kemmer 1993, Alexiadou & Doron 2012), among many others (see also Haspelmath 1987; 1990). As stated in Chapter 2, I am adopting a non-derivational (common-base) approach in my account for transitivity alternations in MA (following Alexiadou & Doron 2012; Alexiadou et al. 2006; 2015). According to Embick (1998; 2004a) the shared morphological pattern is a reflex of a common structural property, namely, absence of an external argument. Embick proposes that the non-active morphology is sensitive to the lack of a syntactically projected external argument. A similar proposal is postulated by Alexiadou (2010) and Arad (2002) who adds absence of accusative case as a trigger for the non-active morphology.

I base my account for the syncretism that appears between passive, anticausative, and psych structures in MA on two main assumptions: (1) the existence of a core meaning instantiated as roots of several classes (Embick 2004a; Alexiadou 2010; Alexiadou et al. 2006; Alexiadou et al.

2015), (2) the existence of the functional projection introducing external arguments, namely little *v*P. Little *v* attracts the root and gives it its grammatical and semantic specifications. Moreover, the little *v* head hosts the target morpheme *ʔan-* in passive, anticausative and psych structures (see Alexiadou 2010 for a similar proposal for Greek).

Support for the proposal that the functional head *v* hosts the morpheme *ʔan-*<sup>67</sup> is provided by the fact that *ʔan-V* is not an agglutinating structure. While *ʔan-* is simply added to an otherwise independent perfective verb stem, this is not the case when *ʔan-* appears with imperfective verbs. That is, *ʔan-* is separable from the perfective verb but is inseparable from the imperfective verbs, which indicates that *ʔan-* and the verb get spelled out together (see table 17). (Notice the change of the imperfective template from CCuC to CaCiC when the verb is spelled out with *ʔan-*)

**Table 17: *ʔan-* with perfective vs. imperfective verbs**

<b>Root</b>	<b>Perf. Verb</b>	<b><i>ʔan-</i>Verb</b>	<b>Imperf. Verb</b>	<b><i>ʔan-</i>Verb</b>
g.t.l	gatal 'kill'	<i>ʔangatal</i> 'killed'	yigtul 'kill'	yingatil 'killed'
k.s.r	kasar 'break'	<i>ʔankasar</i> 'broken'	yiksir 'break'	yinkasir 'broken'
g.h.r	gahar 'upset'	<i>ʔangahar</i> 'get upset'	yighar 'upset'	yingahir 'get upset'

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<sup>67</sup> As noted at the beginning of this chapter, the form *ʔan-* is an abstraction used here to represent the various morpho-phonological realizations of this morpheme in MA.

Building on the theoretical paradigm sketched in Chapter 2 and considering the types of verbal structures discussed in §3.4, I lay out my theoretical assumptions for the root types, the semantic roles, and the different flavors of the functional projection little *v* in MA as follows.

### 3.5.1.1 Root Types

I adopt the proposal that there are different classes of roots determined on the basis of their encyclopedic semantics. Roots have been proposed to fall into the following classes (Alexiadou 2010: 179; Alexiadou et al. 2006: 202):

- $\sqrt{\text{agentive}}$  (*murder, assassinate*): the bringing about of the event requires the presence of an agent
- $\sqrt{\text{internally caused}}$  (*blossom, wilt*): the cause of the change of state event is linked to properties inherent to the argument undergoing the change
- $\sqrt{\text{externally caused}}$  (*destroy, kill*): the change of state is brought about by an external cause
- $\sqrt{\text{cause unspecified}}$  (*break, open*): no specification for internal vs. external cause

The roots that are relevant for the present study are the following, where the first two classes are the same as those found in Alexiadou (2010) and Alexiadou et al. (2006) and the third one is my

own addition. I assume, following (Arad 2002) that the inventory of roots is subject to cross-linguistic variation.<sup>68</sup>

- $\sqrt{\text{agentive}}$  (*g.t.l* ‘kill’):<sup>69</sup> the bringing about of the event requires the presence of an agent
- $\sqrt{\text{cause unspecified}}$  (*k.s.r* ‘break’): no specification for internal vs. external cause
- $\sqrt{\text{psych}}$  (*g.h.r* ‘upset’): the bringing about of the state requires the presence of a stimulus

I assume that the classification of verbs into internally-caused, cause-unspecified and psych-verbs in §3.4 is derived by the combination of one of the roots above with a verbal head. This builds  $\nu$ Ps that express different eventualities. The root type determines the type and specification of the functional head(s),  $\nu$ , it combines with (as will become clear in a subsequent discussion).

Adopting Arad’s (1998; 2002) proposal that little  $\nu$  comes in different semantic flavors, I assume the existence of the features, [c]= (cause change) and [m]= (mental state) in little  $\nu$ . Reinhart (1996; 2000; 2001; 2002) uses such binary features to define the  $\theta$ -relations (argument structure) of verb-entries. That is, for Reinhart the formal features are part of the lexical entries, but here I split the features between the roots, and the functional head  $\nu$ , to account for the argument structure of verbal structures in transitivity alternations in MA.

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<sup>68</sup> It is worth noting here that roots are unpronounceable and category-less in Arabic, and the meaning provided for each root type corresponds to the verbal predicate derived from the root.

<sup>69</sup> *kill* is externally-caused rather than agentive for Alexiadou. This could be explained in light of cross-linguistic variation since *kill* may take an external cause as its external argument in languages like English but always requires an Agent in MA.

### 3.5.1.2 Semantic Roles and Argument Structure

As stated earlier in this dissertation, I am adopting a position in between the projectionist and the constructionist views to argument structure. I assume a syntax/semantics interface in the realization of the argument structure. That is, both the root type and the syntactic structure play a role in determining the argument structure of the predicate.

Some researchers have suggested that semantic roles be defined in terms of a small set of semantic features. This feature decomposition approach is pursued by Reinhart (1996; 2000; 2001; 2002), Rozwadowska (1988; 1989), Haiden (2005), and Kallulli (2006a; 2006b), among others. It aims at covering a wide range of argument realization by decomposing semantic roles into bundles of features rather than viewing them as primitives. While advocates of this approach have different motivations, the features they postulate largely overlap.

I base my account for the transitivity alternations in MA on two features, namely [c] (cause change) and [m] (mental state), adopted from Reinhart (2002). Reinhart views thematic roles as formal features, [c] and [m], rather than as primitives. According to her, [+m] entails animacy, but not vice versa. Moreover, the specifics of the mental state involved vary with the feature-combination. For example, with [+c] (namely in the agent role), [+m] is taken generally to entail volition. But combined with [-c], it is associated with various emotions, depending on the verb. Reinhart assumes four distinct clusters on the basis of these two features, namely, [+c+m], [+c-m], [-c-m], and [-c+m] and asserts that the same feature cluster may entail different interpretations (corresponds to different roles) depending on the lexical semantics of the verb.

Unlike Reinhart, I assume that roots have external argument features<sup>70</sup> and that these features must match their counterparts in the functional heads with which they combine. Thus, the different roots specified earlier have the following features for the external argument, where  $\alpha$  indicates that the feature is not specified, and, thus, is compatible with both [+] and [-] values. Add root types

**Table 18: Semantic specifications for the external argument of different roots**

Root	c	m
Agentive	+	+
Cause-unspecified	+	$\alpha$
Psych	–	$\alpha$

It is worth stating here that I assume that the feature [c] entails externally-caused physical change, contra Reinhart. This excludes psychological change associated with psych verbs and any kind of internal causation which is typically found with unergative verbs.

Roots must adjoin to the functional head  $v$  in order to be categorized as verbs. Given that both heads,  $\sqrt{\quad}$  and  $v$ , carry semantic specifications (formal features) for the external argument, I assume that adjunction of the two heads proceeds on the basis of compatibility between formal features on

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<sup>70</sup> Thematic features, I assume, are specific to roots that merge with different functional heads,  $v$ ,  $n$ ,  $a$  etc. and derive different categories. Roots that are confined to nouns in MA (e.g. roots that derive nouns like *gafaş* ‘cage’, and *ku:x* ‘cottage’) have no thematic features as part of their encyclopedic semantics.

the roots and functional heads. That is the external argument theta-features on the root must be compatible with the theta-features on the functional head for the derivation to converge, otherwise head adjunction is blocked and the derivation crashes. I formalize this compatibility condition as a constraint and specify it as follows:

41. The compatibility constraint for argument structure

The argument structure features of a verbal head adjunction structure have to be compatible (non-contrasting).

The compatibility constraint is satisfied, and the derivation converges when both heads of the adjunction structure,  $\sqrt{\nu}$  and  $\nu$ , have the same values for the external argument features, such that these values are borne by the head of the adjunction structure,  $\nu$ . The derivation also converges if the adjoined head,  $\sqrt{\nu}$ , has unspecified value,  $[\alpha]$ , for a given feature. In such case,  $[\alpha]$  on the root is compatible with either a  $[+]$  or  $[-]$  value on the head of the adjunction structure, namely  $\nu$ . The compatibility constraint is violated and the derivation crashes if the two heads of the adjunction structure have contrasting values for a given feature.

**Table19: Compatibility conditions between  $\checkmark$  and  $\nu$  in head adjunction structures**

The adjoined heads		Status of the compatibility constraint	Features on $\nu$ resulting from head adjunction between $\nu$ and $\checkmark$
Formal features on $\checkmark$	Formal features on $\nu$		
[+c+m]	[+c+m]	Satisfied	[+c+m]
[+c $\alpha$ m]	[+c+m]	(the derivation converges)	[+c+m]
	[+c-m]		[+c-m]
[+c+m]	[+c-m]	Violated	NA
	[-c+m]	(the derivation crashes)	
	[-c-m]		

Accordingly, agentive roots must adjoin with a functional head with the matching feature cluster [+c+m], while cause-unspecified roots can adjoin with functional heads bearing the features [+c+m] or [+c-m] since such roots are [ $\alpha$ m], and, thus, are compatible with either value for the [m] feature. Psych roots are specified with the features [-c $\alpha$ m] and, thus, can adjoin with functional heads bearing the feature cluster [-c+m] or [-c-m]. The different types of functional projections are discussed in the subsequent section.

Building on Reinhart’s (2000) Feature Theory of theta structure, I assume that the semantic roles associated with the external arguments, namely, Agent, Causer, Actor, and Stimulus, correspond to the formal features [c] and [m] as shown in the table below and discussed in more detail in the following section (see also Everaert et al. 2012):

**Table 20: Formal features for the externally-merged semantic roles**

Semantic Role	Formal Features
Agent	$\theta_{[+c+m]}$
Causer	$\theta_{[+c-m]}$
Actor	$\theta_{[-c+m]}$
Stimulus	$\theta_{[-c-m]}$

The semantic roles associated with the internal arguments, Patient, Theme, and Experiencer<sup>71</sup>, are all [+affected] entities but they differ in regard to the involvement and relevance of the mental state of the affected entity as follows:

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<sup>71</sup> Everaert et al. (2012) claim that Agent and Cause obligatorily merge externally, and Theme and Goal obligatorily merge internally while Experiencers are free to merge either externally or internally. I assume that in MA Experiencer arguments always merge internally with dyadic psych predicates.

**Table 21: Formal features for the internally-merged semantic roles**

Semantic Role	Formal Features
Patient/Theme	$\theta_{[+affected-m]}$
Experiencer	$\theta_{[+affected+m]}$

### 3.5.1.3 Functional Projections in Verbal Structures

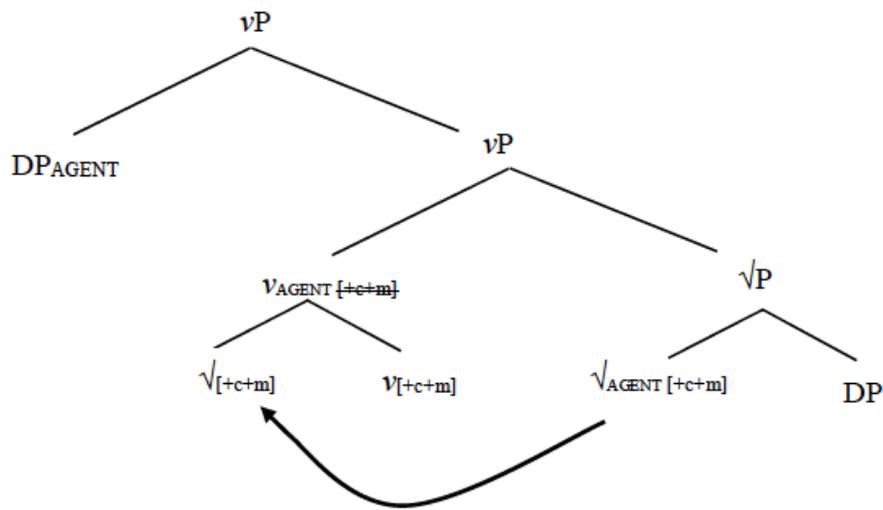
In this section I am going to discuss the distinction between the different external arguments, Agent, Causer, Actor, and Stimulus and introduce the functional heads, little *v*s, introducing these external arguments in MA. Building on the different syntactic behaviors of *lan-* structures, I assume that the agentive, causative, and psych structures share the functional projection *v*P, but the external arguments of these structures are introduced by *v* heads of different types<sup>72</sup>, namely *v*AGENT, *v*CAUSE, *v*DO, *v*STIMULUS. Agents are merged in [Spec, *v*AGENT], Causers are merged in [Spec, *v*CAUSE], Actors are merged in [Spec, *v*DO], and Stimuli in [Spec, *v*STIMULUS]. Motivation for this analysis arises from the fact that the different constructions, passive, anticausative, and psych, exhibit different patterns of compatibility with agent-oriented and cause-oriented adjuncts (see §3.3).

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<sup>72</sup> I build on Alexiadou et al. (2015) that functional head introducing the external-argument has different types depending on the semantics of the external argument (see also Arad 1998/2002; McGinnis 2000; Van Gelderen 2014, among others)

I assume that  $v_{AGENT}$  is the functional projection bearing the features [+c+m], and, accordingly, agentive roots with the cluster [+c+m] for the external argument must adjoin to  $v_{AGENT}$  for an external argument to be introduced. I conclude (in accordance with Reinhart 2002) that [+c+m] corresponds to the Agent semantic role (thematic role)<sup>73</sup>.

42.



In their account for causative alternations, Alexiadou et al (2015) argue for the need for a clear distinction to be made between Agent and Causer external arguments (see also Alexiadou 2014a; Alexiadou & Schäfer 2006). They base their argument on the observation, by Levin and Rappaport Hovav (1995), that only verbs allowing both Agent and Causer external arguments participate in causative/anticausative alternations while transitive verbs that restrict their external arguments to

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<sup>73</sup> My focus in this section is on the external arguments and the functional heads introducing them, so only relevant data is shown on the trees while detailed syntactic derivations of the different structures is provided in the next section.

Agent (and Instrument) do not participate in causative alternations<sup>74</sup>. Thus, as mentioned earlier, a distinction between Agents and Causers is syntactically relevant. Given that, along with the proposal that causative semantics is introduced in *vP*, I assume that Causers are introduced by a different functional head from Agent (cf. Harley 1995; Pylkkanen 2002, Alexiadou & Schäfer 2006; Alexiadou et al. 2006; Folli & Harley 2007; 2008; Alexiadou et al. 2015).

Unlike Agents, Causer arguments, as stated in previous discussion, are restricted to non-human entities in MA. Whenever a human entity appears in the same context as the Causer, it is interpreted as an Agent, and, hence, is incompatible with a *from*-phrase (see §3.3 as well as 3.6.2 below).

43. a. al-hawa    kasar                    al-ba:b  
      DEF-wind   break.PERF.3SG.M   DEF-door  
  
      'The wind broke the door'

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<sup>74</sup> Alexiadou et al (2015:53) refer to this condition as *underspecified external argument condition* and state it as follows:

*Underspecified external argument condition (UEAC)*

Those transitive verbs that cannot form anticausatives restrict their subjects to *agents* or *agents and instruments* and disallow *causers*.

b. al-ba:b    ʔankasar                    min            al-hawa  
 DEF-door    break.PERF.3SG.M    from/by    DEF-wind

'The door broke from the wind'

44. a. al-walad    kasar                                    al-ba:b  
 DEF-boy    break.PERF.3SG.M    DEF-door

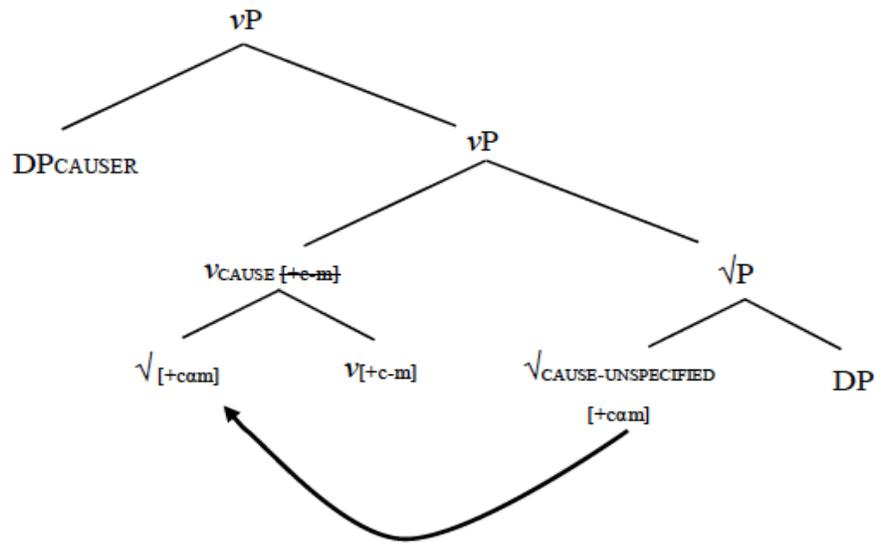
'The boy broke the door'

b. \*al-ba:b    ʔankasar                    min            al-walad  
 DEF-door    break.PERF.3SG.M    from/by    DEF-boy

'The door broke from the boy'

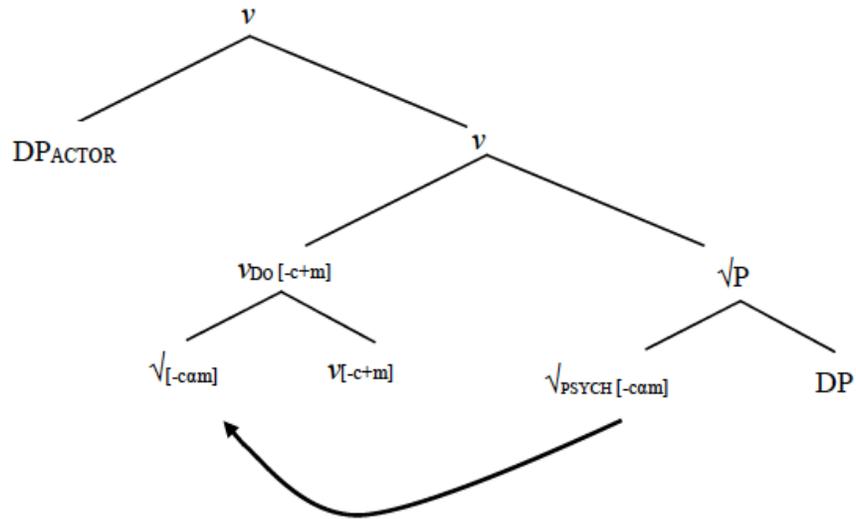
Adopting Reinhart's (2002) feature system I specify the Causer role as [+c-m] as it causes change but is always non-human in MA which excludes any inclusion of mental state. As cause-unspecified roots have the feature bundle [+c $\alpha$ m], they can combine with a functional head with the features [+c-m]. I refer to this functional head as  $\nu$ CAUSE and assume it introduces the Causer argument.

45.



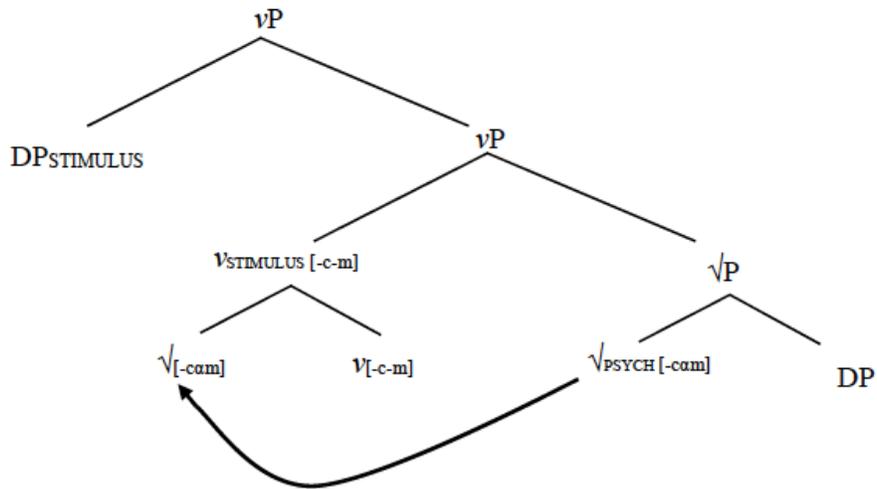
Actor and Stimulus arguments are both associated with psych predicates. Actors have a mental state that allows acting volitionally, thus share the feature [+m] with Agents. Since no physical change occurs as a result of the action they are specified as [-c]. Recall that [+c] entails only non-psychological externally-caused change (see section 3.5.1.2). Thus, this semantic role corresponds to the features bundle [-c+m]. Since psych roots are specified as [-c $\alpha$ m], I assume that these roots are compatible with a functional head bearing the features [-c+m], which introduces the Actor argument in [Spec, vP]. I specify such v head as  $v_{DO}$ .

46.



Stimulus arguments, on the other hand, are nonvolitional and do not cause any physical change, so Stimulus arguments share the feature [-m] with Causers. They are introduced by a functional head with the feature cluster [-c-m], namely  $v_{\text{STIMULUS}}$ .

47.



It is this inventory of functional heads, namely,  $\nu_{\text{AGENT}}$ ,  $\nu_{\text{CAUSE}}$ ,  $\nu_{\text{DO}}$ ,  $\nu_{\text{STIMULUS}}$ , on which I will base my discussion of the transitivity alternations encoded by  $\lambda_{\text{an-}}$  in MA.

As stated earlier (see Chapter 2), I assume that little  $\nu$  selecting dyadic roots bears a voice feature  $[\pm\text{active}]$ . A functional projection  $\nu_{[+\text{active}]}$  projects a specifier and thus encodes transitive structures with explicit external arguments. In contrast, a functional head  $\nu_{[-\text{active}]}$  does not project a specifier and hence encodes intransitive (unaccusative) structures. Accordingly, in my account for the target syncretism in MA, I associate  $\lambda_{\text{an-}}$  with  $\nu_{[-\text{active}]}$ .

It is worth stating here that the mechanism of the introduction of the internal argument and whether or not a checking relation holds is beyond the scope of the present study, so I will leave it as an open question and will abstract away from the details of how the internal argument is merged. For now, I will assume that internal arguments are projections of the roots and that roots merge with their complements and project to  $\sqrt{\text{P}}$  before the categorizing head is merged (Embick 2004a; Harley 2014). A summary of the semantic roles associated with the different root types is provided in table (22).

**Table 22: Theta grid for different root types**

<b>Root type</b>	<b>The thematic roles of the EA &amp; IA</b>
Agentive	$\langle \theta_{[+\text{c}+\text{m}]} \theta_{[+\text{affected}-\text{m}]} \rangle$
Cause-unspecified	$\langle \theta_{[+\text{ca}+\text{m}]} \theta_{[+\text{affected}-\text{m}]} \rangle$
Psych	$\langle \theta_{[-\text{ca}+\text{m}]} \theta_{[+\text{affected}+\text{m}]} \rangle$

To sum up, in this section I have introduced the inventory of functional heads, namely,  $\nu_{\text{AGENT}}$ ,  $\nu_{\text{CAUSE}}$ ,  $\nu_{\text{DO}}$ ,  $\nu_{\text{STIMULUS}}$ , on which I will base my discussion of the transitivity alternations encoded by  $\lambda_{an}$ - in MA. In the next section I provide an account for the different transitivity alternations with  $\lambda_{an}$ - on the basis of the components of roots, and functional heads developed so far.

### **3.6 Toward a syntactic account for $\lambda_{an}$ -syncretism**

My account for the different variants of transitivity alternations encoded with  $\lambda_{an}$ - in MA is based on the combination of the functional projection,  $\nu\text{P}$ , different types of little  $\nu$ , and different classes of roots with distinct features. In this section I provide a syntactic analysis of transitivity alternations coded with  $\lambda_{an}$ -. In §3.6.1 I discuss the active/passive alternations and the syntactic derivation of each alternant. The syntactic derivation of causative/anticausative alternants is provided in §3.6.2. Finally, §3.6.3 discusses the syntactic derivation of OE/SE alternations.

#### **3.6.1 Active/passive alternations**

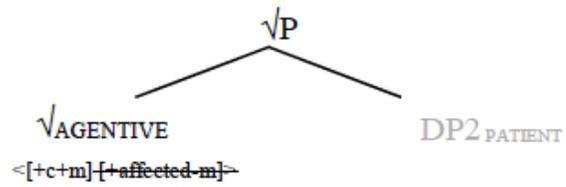
As stated earlier, I adopt a common-base approach (following Doron 2003a; Alexiadou et al. 2006/2015, and pace Kallulli 2006a) in my account for the transitivity alternations in MA. That is, I do not assume the intransitive alternant is derived from the transitive one or vice versa; rather, I assume that both variants of the alternation are derived with the same root (cf. Arad 2002; Schäfer 2008; Alexiadou & Doron 2012) but different bundles of features.

To start with the transitive (active) structure in (48), I assume that the Agentive root merges with a complement DP2 and the root phrase is projected.

48. a. al-ḥara:mi    gatal                    al-ḥa:ris  
 DEF-thief    kill.PERF.3SG.M    DEF-guard

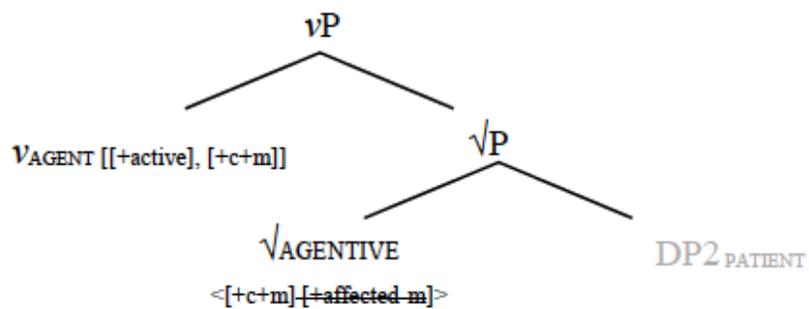
'The thief killed the guard'

b.



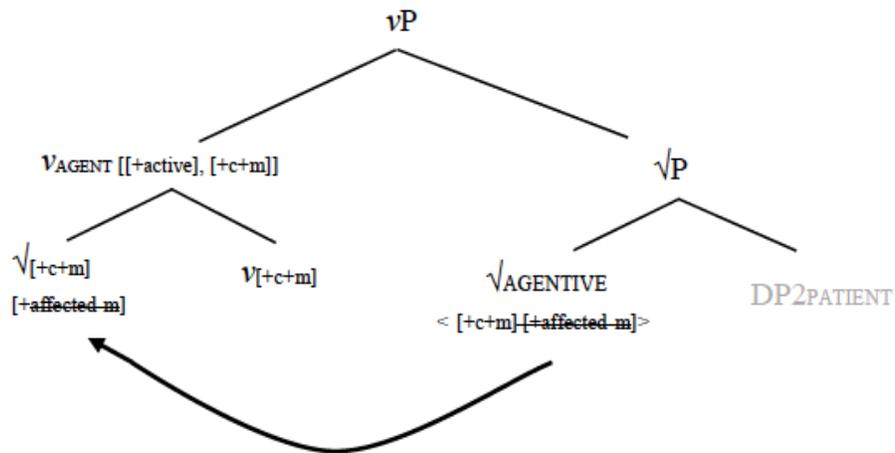
The root phrase, then, merges with active [+active] little  $v_{AGENT}$  that bears the features cluster [+c+m] and  $vP$  is projected.

c.



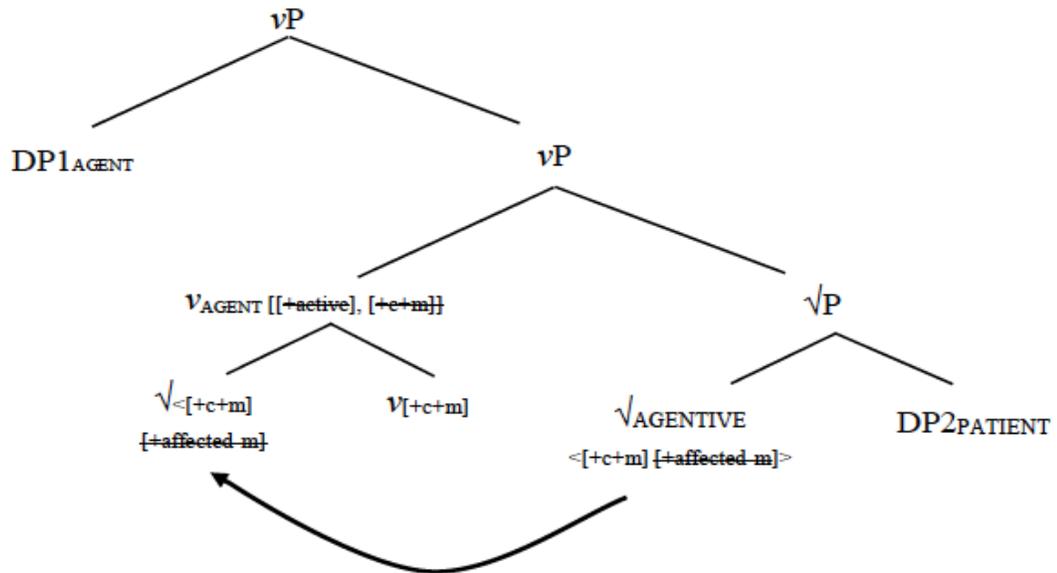
The uncategorized root adjoins to the little  $v_{\text{AGENT}}$  head to be categorized as a verb. Since both heads,  $\sqrt{\phantom{x}}$  and  $v$ , carry the same feature values,  $[+c+m]$ , for the external argument, the compatibility constraint is satisfied, and the head of the adjunction structure is specified as  $[+c+m]$ .

d.



Once the feature  $[+c+m]$  is borne by the  $v$  head,  $v_{\text{AGENT}}$ , of the adjunction structure and given that this head is  $[+active]$ , an Agent external argument is merged in  $[\text{Spec}, vP]$ . When the external argument, DP1, is introduced in  $[\text{Spec}, vP]$ , the object DP2 gets a dependent accusative case from the c-commanding DP1 (see Chapter 2).

e.



The intransitive variant of the same structure is derived when the same  $\sqrt{P}$  combines with a  $v_{AGENT}$  specified as [-active] and, hence, has no specifier. Since the Agent external argument cannot be introduced in [Spec,  $v_{AGENT}$ ], it remains implicit<sup>75</sup>. A little  $v$  head specified as [-active] is spelled out with *?an-* in MA.

Passive structures are derived with a [-active]  $v_{AGENT}$  and they are the only structures that show evidence for implicit argument (Agent) as indicated by their compatibility with the agentive diagnostics (see §3.3) (cf. Alexiadou & Schäfer 2006; Alexiadou 2014b; Alexiadou et al 2006; 2015, among others). Since no DP1 appears in [Spec,  $vP$ ] in (49b), no dependent accusative case

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<sup>75</sup> As noted earlier, I follow Legate (2012) and Alexiadou et al. (2015) (among others) in assuming that the implicit agent is existentially bound.

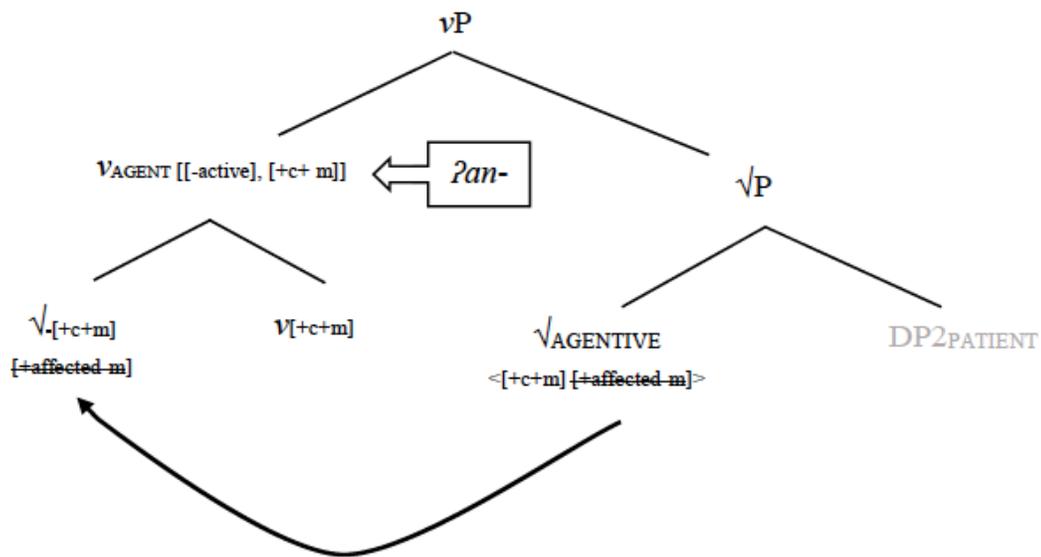
can be assigned to the internal argument DP1 in this structure which triggers movement of the internal argument to [Spec, TP] to satisfy the case filter.

49. a. al-ḥa:ris    ʔangatal            (Passive)

DEF-guard    was killed.3SG.M

'The guard was killed'

b.



The premise that vAGENT is the only functional head with the external argument feature bundle [+c+m], and that Agents are merged only in this functional structure is indicated in MA through the restriction on the properties of the implicit argument (as is the case in Greek (see Alexiadou et al 2015)). That is, only Agents can be implicit external arguments in MA, unlike in English where

the implicit external argument can be an Agent, Causer, or causing event (see Kallulli 2006a; Alexiadou et al. 2015).

Building on Alexiadou et al (2015) that prepositions related to agents and instruments are licensed by Voice, I assume that in MA,  $v_{AGENT}$  (which, in my analysis, corresponds to Voice) licenses only prepositions related to instruments but not agents (see 50 below) as no *by* phrases or any other prepositional phrases related to the agent are licit in passive structures in MA (The implicit Agent can never be expressed overtly in Arabic (e.g. as an adjunct PP) (cf. Sulieman 1998; Budar et al. 2004; Muhamad 2007; Mahdi 2011)).

50. a. al-ḥa:ris    ʔangatal            bi-sakki:n  
DEF-guard    was killed.3SG.M    with-knife

'The guard was killed with a knife'

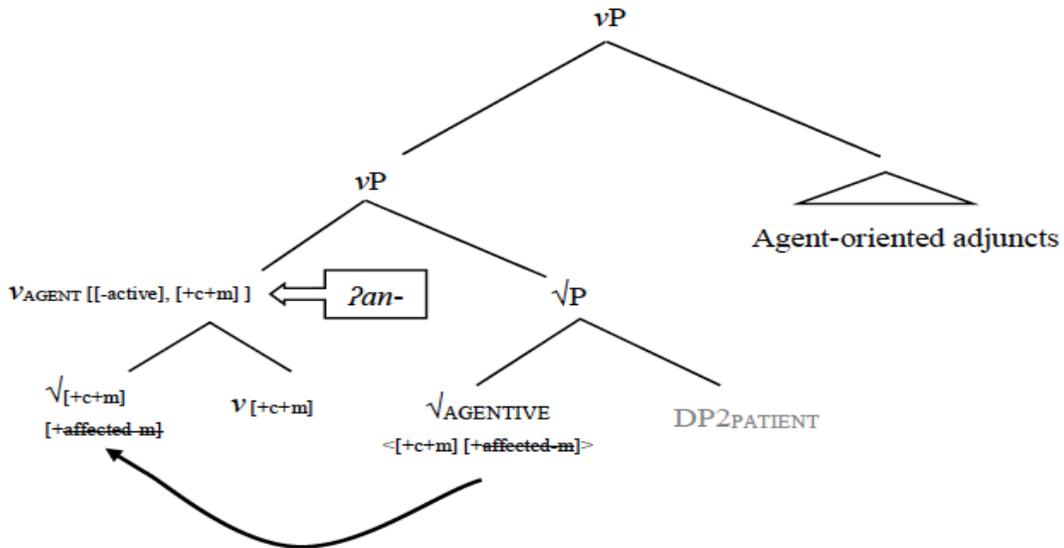
b. \*al-ḥa:ris    ʔangatal            min            al-ḥara:mi  
DEF-guard    was killed.3SG.M    from/by    DEF-thief

Intended: 'The guard was killed by the thief'

While passive structures in MA are incompatible with *by*-phrases, they still exhibit clear evidence for the existence of implicit Agents via their compatibility with instrumental PPs and agent-

oriented adverbs *bilçinya/çan gaşd* 'intentionally/deliberately' (see §3) as these are adjuncts of the  $v_{\text{AGENT}}$  head<sup>76</sup>.

51.



In sum, passive structures are derived with agentive roots in MA. Such structures are syntactically intransitive as the  $v_{\text{AGENT}}$  head does not project a specifier but are semantically transitive since they exhibit evidence for the existence of an implicit Agent (see Schäfer 2007; Alexiadou et al. 2015). While  $v_{\text{AGENT}}$  is specific to Agentive [+c+m] arguments, all the other external arguments

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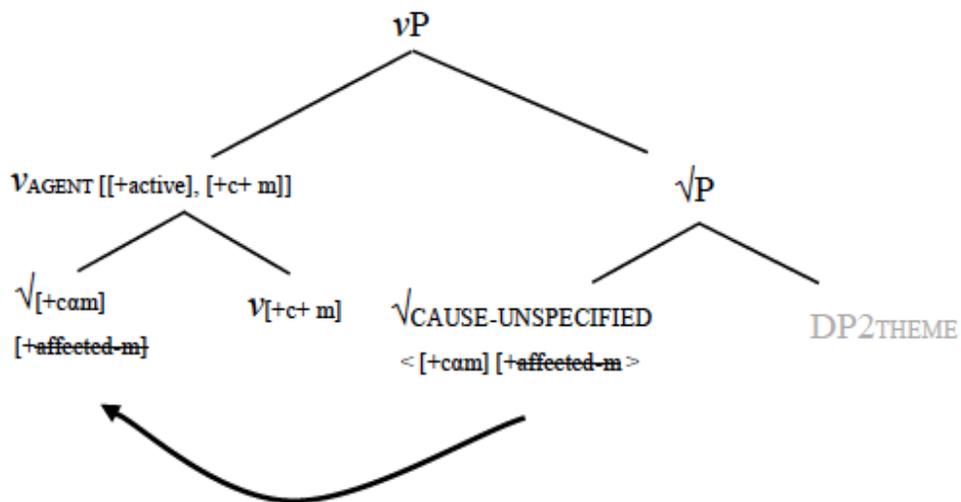
<sup>76</sup> Instrumental PPs but not agent-oriented adverbs are restricted to  $v_{\text{AGENT}}$  as will become evident in subsequent sections.

are introduced in little *v*s of different flavors (different feature specifications) as will be shown in the following sections.

### 3.6.2 Causative/Anticausative alternations

Cause-unspecified roots have the theta grid  $\langle \theta_{[+c\alpha m]} \ \theta_{[+affected-m]} \rangle$ . This root type can adjoin with  $v_{AGENT}$  bearing the features  $[+c+m]$ , or  $v_{CAUSE}$  bearing the features  $[+c-m]$ , since both feature clusters are compatible with  $[+c\alpha m]$ , on the root. When a  $\sqrt{P}$  with a cause-unspecified root merges with  $[+active]$  little  $v_{AGENT}$ , the head of the  $\sqrt{P}$ , the root, adjoins to the little  $v$  to be categorized as a verb.

52.



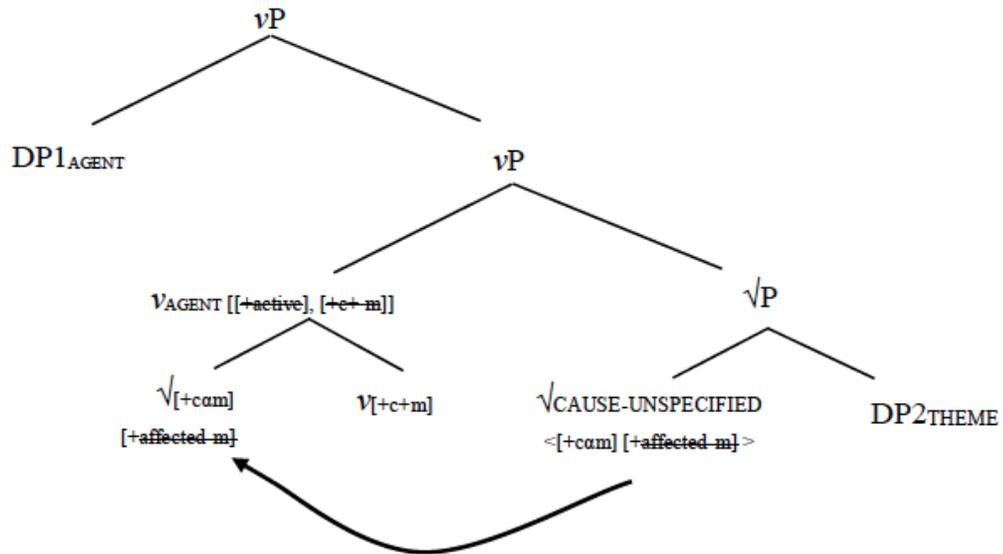
The adjoined heads,  $\sqrt{\quad}$  and  $v$ , of the adjunction structure have the same value for the first feature,  $[+c]$ . For the second feature  $[m]$ , the root has an unspecified value  $[\alpha]$  while the functional head

has a specified value [+m] for the same feature. In such case, and in accordance with the compatibility constraint (see §3.5.1.2), the specified value of the target feature [+m] is the one borne by the head of the adjunction structure resulting in  $v_{AGENT [+c+m]}$ .

Given that the compatibility constraint is satisfied in the adjunction structure, the derivation converges. Thus, an Agent external argument is introduced in [Spec,  $vP$ ] to satisfy the voice feature [+active] on  $v_{AGENT}$ . Moreover, according to the dependent case assignment in Arabic (see Ahmed 2016), the external argument, DP1, in [Spec,  $vP$ ] assigns accusative case to the internal argument, DP2, (in the complement of the root) and the resulting structure is a transitive, agentive, one as exemplified below.

53. a. al-walad    kasar                      al-ba:b  
         DEF-boy    break.PERF.3SG.M    DEF-door  
  
         'The boy broke the door'

b.

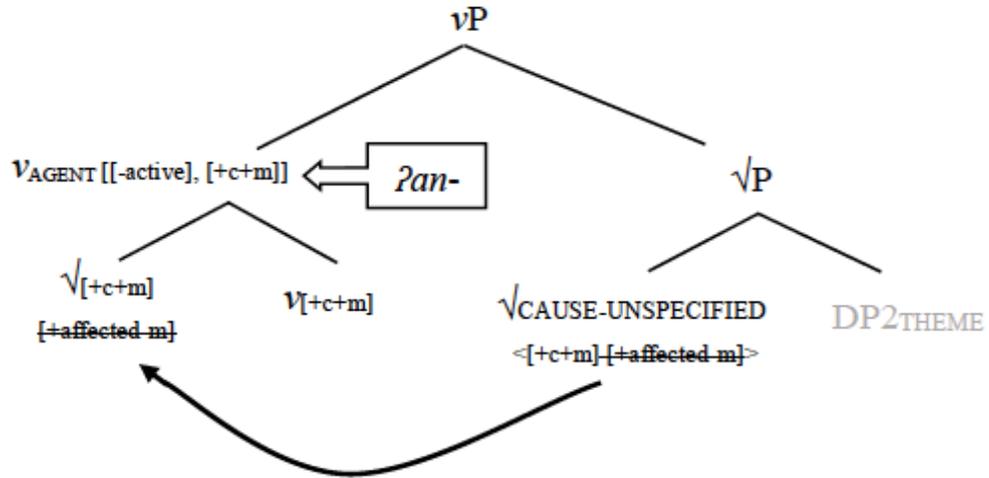


If, however, the  $v_{\text{AGENT}}$  head is [-active], and, thus does not project a specifier, the external argument will not be introduced but will be implicit. Accordingly, the  $v_{\text{AGENT}}$  head will be spelled out with  $\lambda an-$  and the alternant passive structure is derived (see 54) (see 3.6.1 for detailed derivation of agentive structures).

54. a. al-ba:b     $\lambda$ ankasar  
 DEF-door    break.PERF.3SG.M

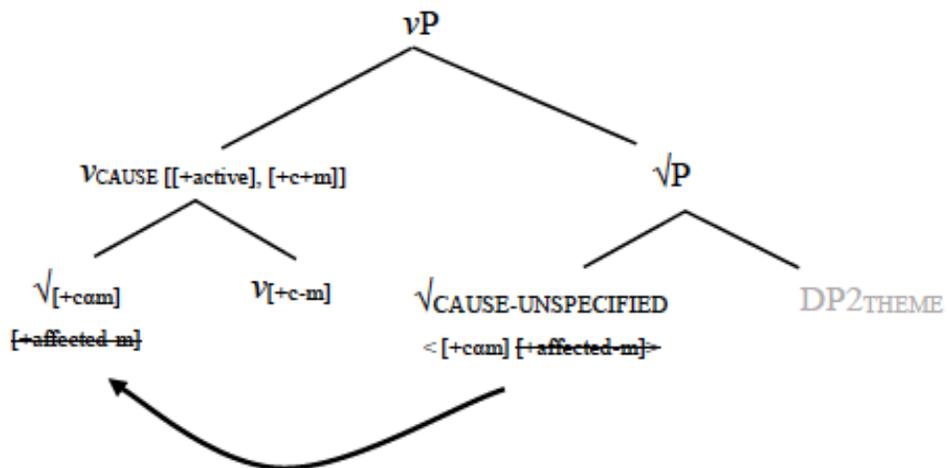
'The door was broken'

b.



On the other hand, if  $\sqrt{P}$  with cause-unspecified root merges with little  $v$  with the features [+c-m], which I identify as  $v_{CAUSE}$ , and  $vP$  is projected. The root head adjoins to little  $v$  to be categorized as a cause-unspecified verb.

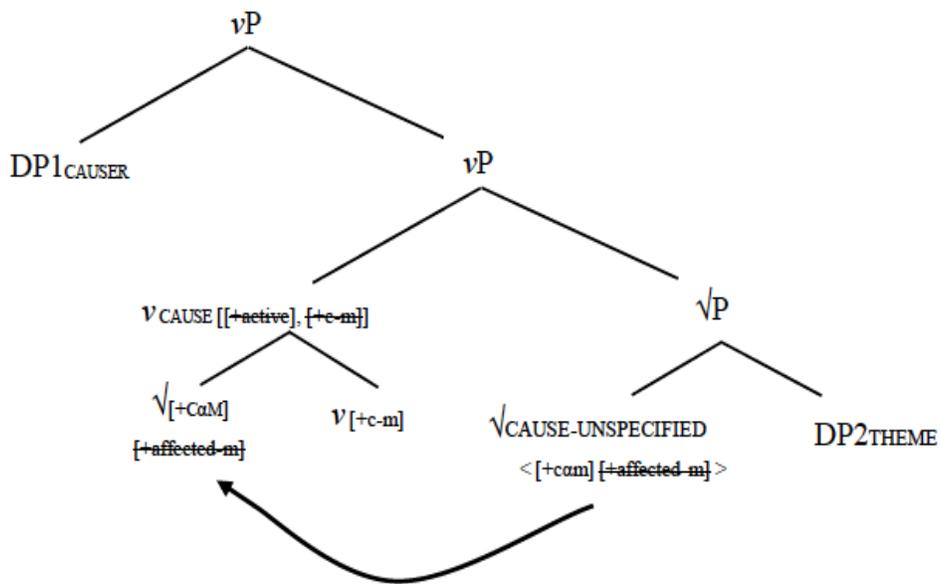
c.



Since both heads of the adjunction structure have the same value for [c] and the root has an unspecified value for [m], the head of the adjunction structure bears the features [-c-m]. Provided that the compatibility constraint is satisfied, a Causer external argument is introduced in [Spec, vP] to satisfy [+active] on  $v_{CAUSE}$ . Once the external argument DP1 is merged, the internal argument DP2 gets dependent accusative case (see Chapter 2), and the resulting structure is a transitive, causative one.

55. a. al-hawa    kasar                    al-ba:b  
 DEF-wind    break.PERF.3SG.M    DEF-door  
 'The wind broke the door'

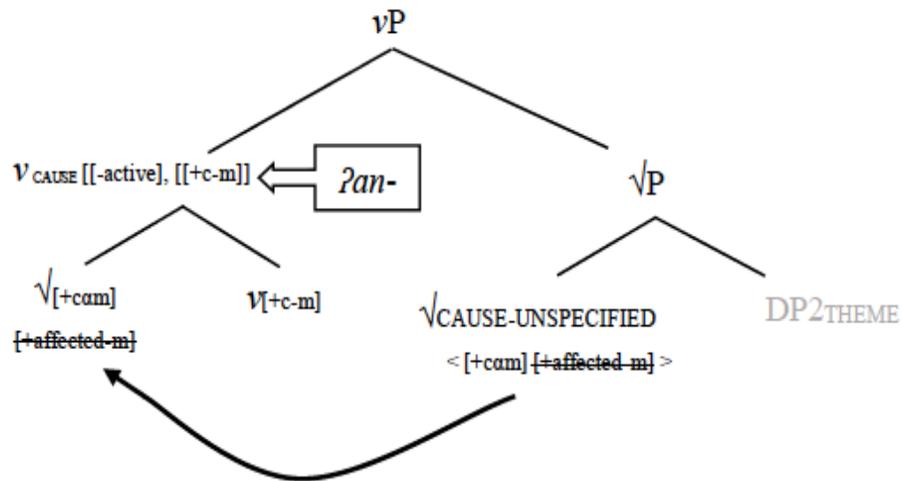
b.



The anticausative alternant of this structure is derived when the same cause-unspecified  $\sqrt{P}$  merges with  $v_{\text{CAUSE}}$  without a specifier. In a structure like (56b) when little  $v$  bears the feature [-active], no external argument can be merged. Consequently, the little  $v$  is spelled out as non-active with *ʔan-* (see Alexiadou et al. 2015 for a similar proposal for anticausatives in Greek and Albanian).

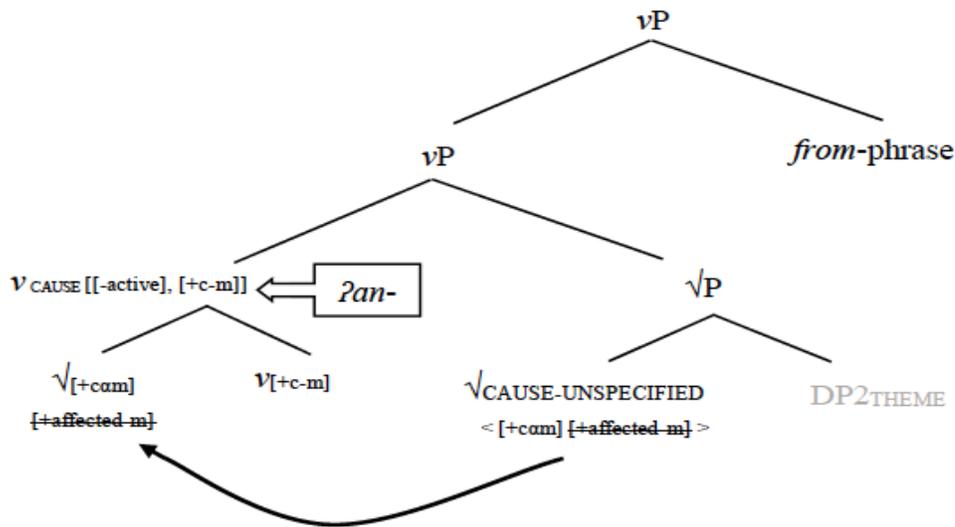
56. a. al-ba:b ʔankasar  
 DEF-door break.PERF.3SG.M  
 'The door broke'

b.



As discussed earlier, while anticausative structures lack agentivity, they exhibit clear evidence for causation as proved by their compatibility with *from*-phrases and *by itself* (see Doron 2003a; Kallulli 2006a; Alexiadou et al. 2006 & 2015). The Causer argument may surface only obliquely in a *from*-phrase in anticausative structures and, hence, the *from*-phrase is analyzed as a modifier licensed by *v*P (Alexiadou et al 2006; 2015). This is shown in (56c). Such a proposal is consistent with the assumption that causative semantics is introduced by *v*P (cf. Legate 2014).

c.

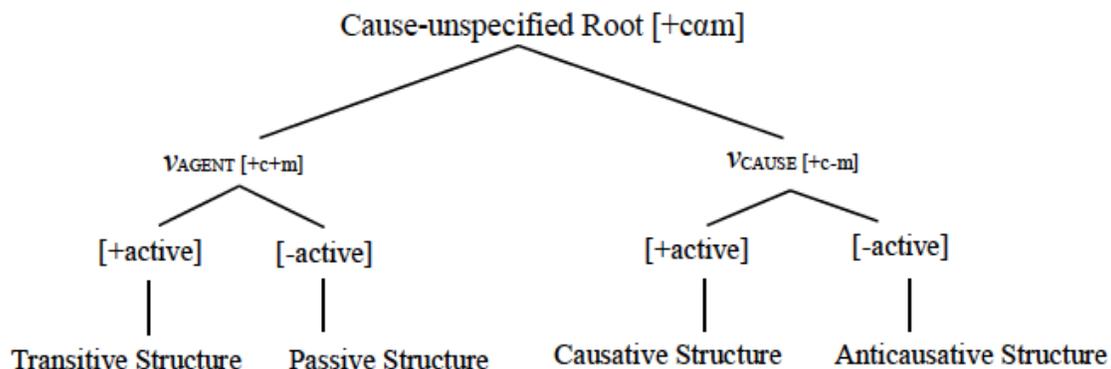


To sum up, cause-unspecified roots may combine with *v*<sub>AGENT</sub> or *v*<sub>CAUSE</sub>. These roots take either an Agent or a Causer as their external arguments, thus they encode both passive and anticausative constructions in MA. They combine with *v*<sub>AGENT</sub> [+active] to derive transitive (agentive) structures and with *v*<sub>AGENT</sub> [-active] to derive passive structures. They can also combine with *v*<sub>CAUSE</sub> [+active] to derive causative structures or with *v*<sub>CAUSE</sub> [-active] to derive anticausative structures. While agentive

constructions can be derived with both agentive and cause-unspecified roots, anticausative constructions are confined to cause-unspecified roots in MA. This is consistent with Levin and Rappaport Hovav's (1995) observation that, cross-linguistically, only verbs that can take both Agent and Causer external arguments (as is the case with cause-unspecified verbs here) enter the causative/anticausative alternations whereas verbs allowing for Agent external arguments only never participate in such alternations (see also Alexiadou et al 2015 who formulated such an observation as *underspecified external argument condition* (see ft.74).

The structures derived with cause-unspecified roots in MA are summarized in (57) below.

57.

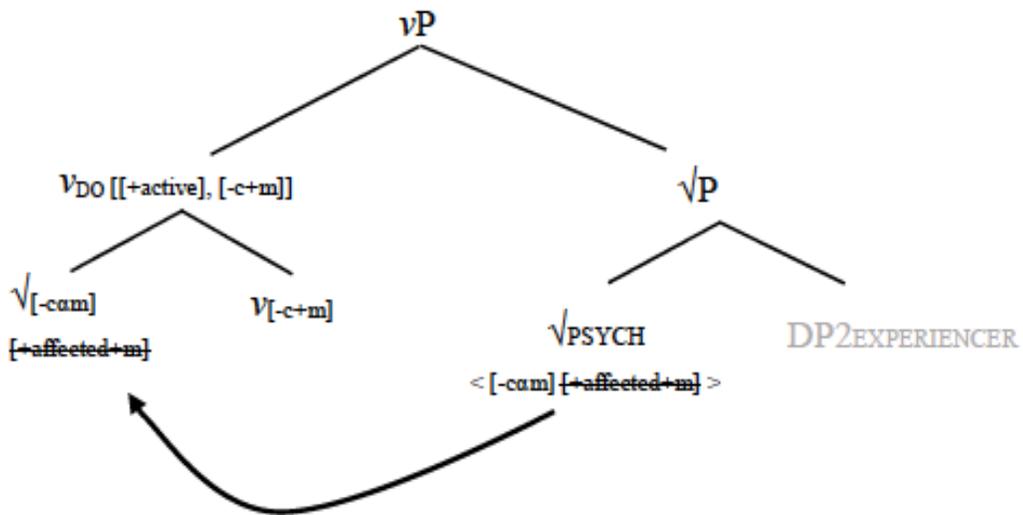


### 3.6.3 OE/SE alternations

As mentioned earlier, *ʔan-* encodes object experiencer (OE)/ marked intransitive SE alternations in MA. The alternation between transitive OE and marked intransitive SE verbs is well attested in several languages including Hebrew (Arad 2002), Finnish (Nelson 2000), Greek and Romanian

(Alexiadou and Iordăchioaia 2014), French and Russian (Pesetsky 1995), among many others. As Psych roots have the features  $[-c\alpha m]$  for the external argument, the  $\sqrt{P}$  with a psych root can merge with functional heads bearing the features  $[-c+m]$  or  $[-c-m]$ . If the psych  $\sqrt{P}$  merges with  $[+active]$  little  $v$  with the features  $[-c+m]$ , which I refer to as  $v_{DO}$ , the  $vP$  is projected. The psych root is categorized as a psych verb by adjoining to the functional head  $v$ . Both the root and  $v$  are specified as  $[-c]$ , and since the psych root bears the feature  $[\alpha m]$ , it is compatible with the  $[+m]$  feature on  $v$ . Thus, the head of the adjunction structure bears the feature cluster  $[-c+m]$ .

58.



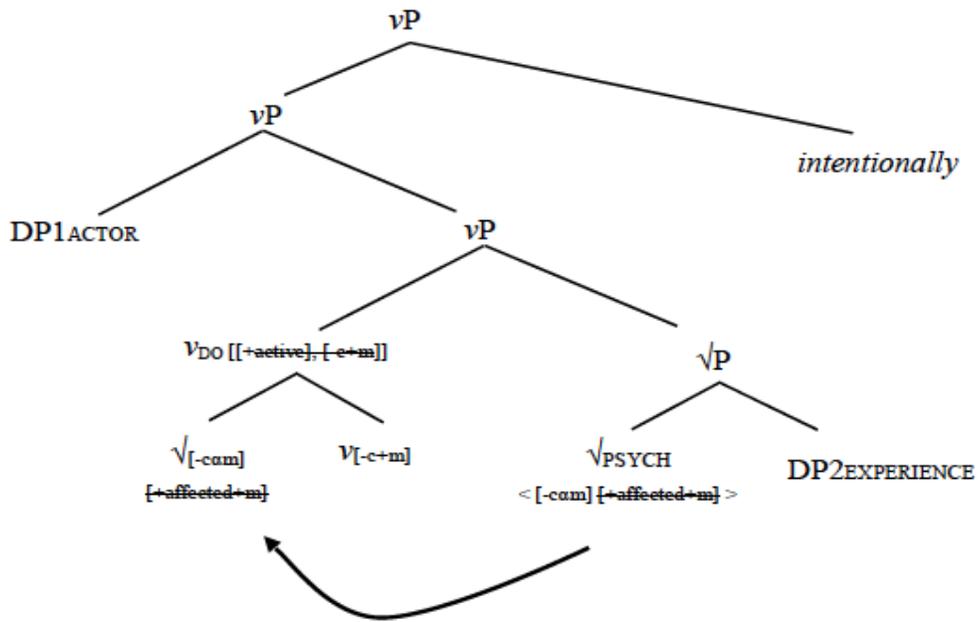
Since  $v_{DO}$  bears the voice feature  $[+active]$ , a specifier of  $vP$  is projected and an Actor external argument is introduced in  $[Spec, vP]$  yielding a transitive interpretation.



60. a. ar-ri3za:l bilʕinya / ʕan gaʕd gahar al-walad  
 DEF-man intentionally upset.PERF.3SG.M DEF-boy

'The man intentionally upset the boy'

b.

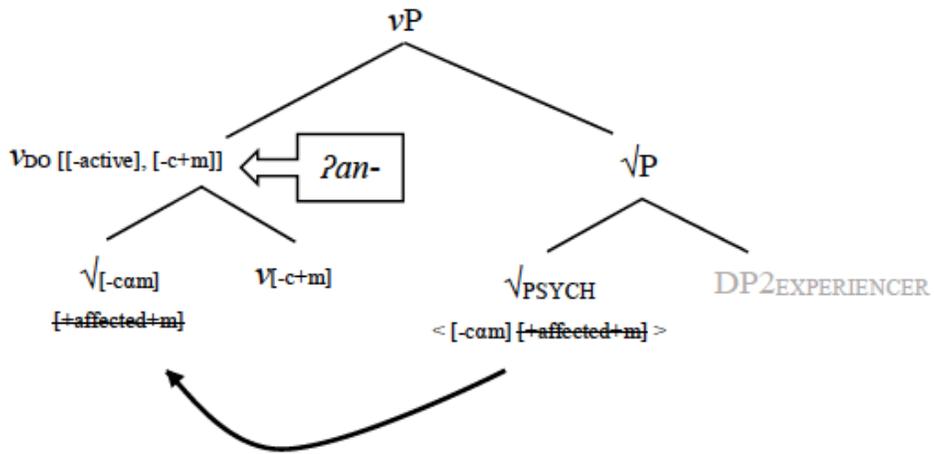


The alternant intransitive structure of the Actor-based psych structure in (60) is derived when the same psych  $\sqrt{P}$  merges with [-active]  $v_{DO}$ , and, hence, no ACTOR external argument is merged in [Spec,  $vP$ ]. Consequently,  $v_{DO}$  is spelled out with the target morpheme *ʔan-*.

61. a. al-walad    ʔatgahar  
 DEF-boy    feel upset.PERF.3SG.M

'The boy got/felt upset'

b.



In contrast to its transitive alternant, the structure in (61) is incompatible with *intentionally* as shown in (62).

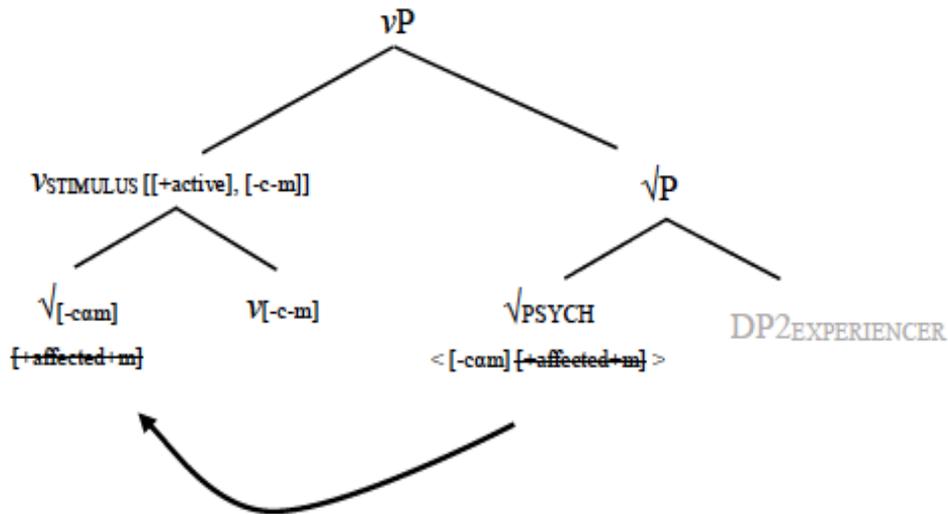
62. \*al-walad    ʔatgahar                    bilʕinya/ʕan gaʕd  
 DEF-boy    feel upset.PERF.3SG.M    intentionally

'The boy intentionally got/felt upset'

I postulate that such incompatibility is the result of overt arguments taking precedence over implicit arguments. Both the implicit Actor argument and the internal Experiencer argument of the *ʔan*- psych structure in (62) are specified as [+m]. The adverb *intentionally*, which is sensitive to this feature, associates with the overt Experiencer argument, ‘the boy’, rather than the covert Actor argument, ‘the man’, which results in a different interpretation than the intended one.

Another possible reading for the psych structure is a Stimulus-based one. This reading is derived when a  $\sqrt{P}$  with psych root bearing the external argument features [-c-m] merges with an active  $v_{\text{STIMULUS}}$  head that bears the compatible features [-c-m]. The resulting structure is specified as [-c-m]:

63.



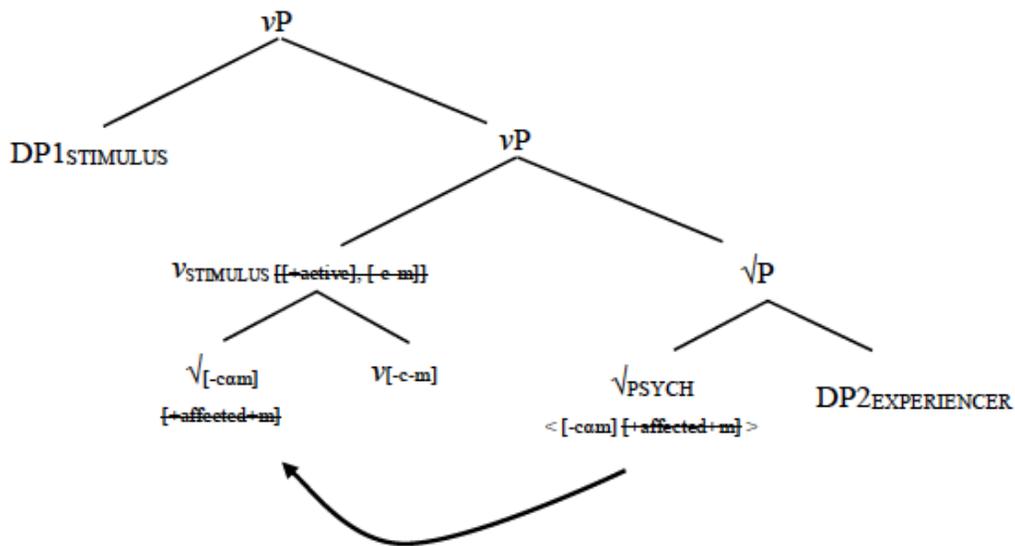
Provided that  $v_{\text{STIMULUS}}$  is [+active], a Stimulus argument is introduced in [Spec,  $vP$ ] and a transitive OE Stimulus-based psych structure is derived.

64. a. ar-riz3a:l gahar al-walad

DEF-man upset.PERF.3SG.M DEF-boy

'The man upset the boy'

b.



Unlike the Actor that is always human, the Stimulus may or may not be human. However, the humanness of the Stimulus does not matter since intentionality is excluded with [-m]. Thus, unintentional human arguments are treated as mere triggers (Stimulus). This is compatible with Kallulli's (2006b) claim that [+intentional] feature is missing in unintentional agents, and it is in line with Rothmayr's (2009) proposal that unintentional agents are instruments. According to Kalluli (2006a: 214) intentionality entails animacy, but animacy itself "while necessary, is not

sufficient, because animate participants can still bring about or engage in events without intending to do so”.

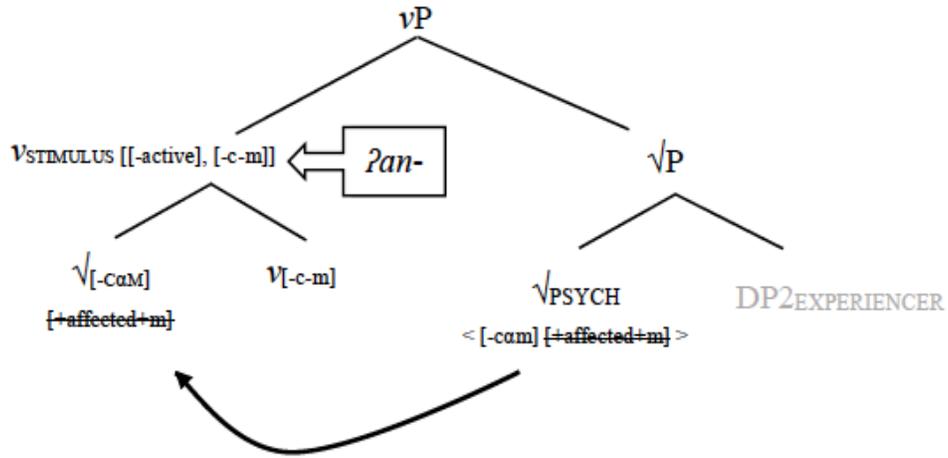
Psych structures with non-human external arguments (65) are not ambiguous in the same way since they have only a Stimulus, not an Actor, reading.

65. al-mawgif    gahar                    al-walad  
DEF-situation   upset.PERF.3SG.M   DEF-boy  
'The situation upset the boy'

The functional projection  $v_{\text{STIMULUS}}$  can bear a voice feature [+active], so a specifier is projected where the Stimulus [-c-m] is introduced, or it can be [-active], in which case no specifier is projected, and no external argument is introduced. In the latter case, the resultant structure is an intransitive SE construction that is morphologically marked with *?an-*.

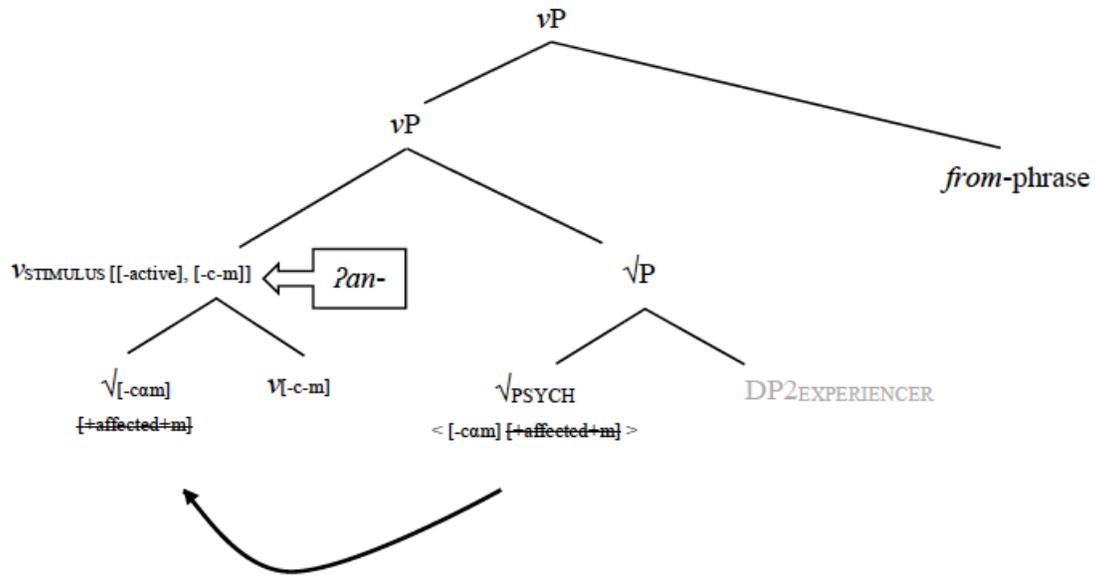
66. a. al-walad    ?atgahar  
DEF-boy    feel upset.PERF.3SG.M  
'The boy got/felt upset'

b.



Of the four diagnostics specified so far, this construction is compatible only with a *from*-phrase (67). Since a *from*-phrase is compatible with  $v_{CAUSE}$  [+c-m], and incompatible with  $v_{AGENT}$  [+c+m], I conclude that this adjunct is compatible with [-m] functional heads. Accordingly, it is illicit with  $v_{DO}$  [-c+m] while compatible with  $v_{STIMULUS}$ [-c-m].

67.



What all *?an*-structures share in common is the lack of an external argument, represented as [-active] feature on the functional head *v*, and it is this feature that captures what I have called *?an*-syncretism. Moreover, while passive, anticausative and psych structures share the same functional structure, *vP*, they differ in the type of *v* they contain. The difference between *v*<sub>AGENT</sub>, *v*<sub>CAUSE</sub>, *v*<sub>DO</sub>, and *v*<sub>STIMULUS</sub> accounts for the compatibility of the different *?an*- structures with different adjuncts.

### 3.7 Summary and Conclusion

In this chapter I provide a syntactic account for transitivity alternations encoded with the morpheme *?an*- in MA. In my account I adopt a modified version of Reinhart (2000) and Haiden's (2005) Feature Theory of theta structure. While Reinhart uses the binary features [c]ause change and [m]ental state for thematic relations, I generalize the same inventory of formal features to

functional heads. Thus, the features [c] and [m] occur on roots (as part of their encyclopedic semantics) and on functional heads (as part of their structural semantics).

I identified three root types, agentive [+c+m], cause-unspecified [+c+m], and psych [-c+m], and have emphasized the interface between structural semantics, emerging from the structure, and encyclopedic semantics, encapsulated in the roots in determining the argument structure of the verb. I postulate a functional projection headed by a functional head  $\nu$  that has different types with different flavors, different semantic components, namely,  $\nu_{\text{AGENT}} [+c+m]$ ,  $\nu_{\text{CAUSE}} [+c-m]$ ,  $\nu_{\text{DO}} [-c+m]$ , and  $\nu_{\text{STIMULUS}} [-c-m]$ . Little  $\nu$  has an optional voice feature [ $\pm$ active]. A functional head  $\nu_{[+active]}$  projects a specifier in which an external argument is licensed/introduced and hence derives transitive structures. In contrast, a functional head  $\nu_{[-active]}$  does not project a specifier and thus derives unaccusative structures. *ʔan-* spells out  $\nu_{[-active]}$ .

Results of the analysis of *ʔan-* agentless structures provide support for the proposals of different flavors of little  $\nu$  (Arad 1998; 2002; Alexiadou et al. 2006; McGinnis 2000; Van Gelderen 2014) and different root types (Embick 2004a; Alexiadou 2010; Alexiadou et al. 2006; Alexiadou et al. 2015). I conclude that transitivity alternations encoded with *ʔan-* in MA are both semantically determined by the encyclopedic semantics of the roots and syntactically encoded by the structural semantics of the functional heads, both of which determine the argument structure of a given predicate. I conclude that morphologically-marked transitive/unaccusative alternations boil down to a voice feature [ $\pm$ active] on the functional head  $\nu$ .

## Chapter 4

### Reflexives and Reciprocals

#### 4.1 Introduction

Cross-linguistically, reflexives and reciprocals group together and exhibit similar semantic and syntactic behavior (c.f. König & Gast 2002; Reinhart & Siloni 2004, 2005; Déchaine & Wiltschko 2017 among many others). This is plausible given that the external and internal arguments in these structures are not completely distinct DPs. In reflexive structures, the two arguments are identical as they refer to one and the same entity while in reciprocal structures the external and internal arguments participate in a single symmetric event and, thus, each argument is an Agent and Patient at the same time (see Dimitriadis 2008; Reuland 2017).

In MA reflexives and reciprocals exhibit transitivity alternations between transitive and intransitive structures. The transitive reflexive and reciprocal structures take reflexive and reciprocal pronouns, respectively, as their objects (internal arguments). Their intransitive alternants are morphologically marked with *ʔat-*. As the following examples show, structures marked with *ʔat-* are incompatible with objects (internal arguments). That is, *ʔat-* affects the valence of the verb, so it takes only one argument, and the addition of the reflexive pronoun or the reciprocal pronoun results in ungrammaticality.

1. a. Sami rawwaš                      nafsu                                      (Reflexive)  
      Sami wash.PERF.3SG    self-3SG.M  
      'Sami washed himself'

b. Sami ʔatrawwaš (\*nafsu)

Sami wash. PERF.3SG self-3SG.M

'Sami washed himself/ Sami had a shower'

2. a. al-awla:d ʃ:afaħ-u baʃaḍ (Reciprocal)

DEF-boys shake hand. PERF.3-PL each other

'The boys shook hands with each other '

b. al-awla:d ʔatʃ:afaħ-u (\*baʃaḍ)

DEF-boys shake hand.PERF.3-PL each other

'The boys shook hands with each other '

The morphologically marked verbal reflexive and reciprocal structures seem at first glance to be syncretic with the passive, anticausative and psych structures as they bear similar morphology. However, I will argue here that these two sets of structures are syntactically distinct in that the morpheme *ʔan-/ʔat-* indicates absence of an external argument in passive, anticausative and psych structures while the morpheme *ʔat-* indicates bundling of the semantic roles in reflexive and reciprocal structures.

In passive, anticausative and psych structures the morphological marker exhibits free variation between *ʔan-* and *ʔat-* in MA but this is not the case with reflexives and reciprocals where the morpheme has a fixed form, *ʔat-*.

3. a. al-ḥa:ris ʔan/ʔatgatal (Passive)

DEF-guard was kill.PERF.3SG.M

'The guard was killed'

b. al-fusta:n ʔan/ʔatšagg (Anticausative)

DEF-dress tear.PERF.3SG.M

'The dress tore'

c. al-walad ʔan/ʔatgahar (Psych)

DEF-boy feel upset.PERF.3SG.M

'The boy felt upset'

d. al-walad (\*ʔanrawwaš)/ʔatrawwaš (Reflexive)

DEF-boy wash.PERF.3SG.M

'The boy washed himself/ the boy had a shower'

e. al-awla:d (\*ʔanʕ:afaħ-u)/ʔatʕ:afaħ-u (Reciprocal)

DEF-boys shake hand with. PERF.3-PL

'The boys shook hands with each other '

While the first group of structures, namely, passive, anticausative and psych structures, are generally derived with tri-consonantal roots mapped to a simple template, CaCaC, the second group of structures, namely, reflexives and reciprocals, are derived differently. Reflexives are derived with quadr-consonantal roots (or tri-consonantal roots<sup>77</sup>) mapped to the causative/intensive template CaCCaC, and reciprocals are derived with tri-consonantal roots mapped to the symmetric template, Ca:CaC (See §1.4.1 in Chapter 1). Thus, both reflexive and reciprocal constructions have special templates and a morpheme *ʔat-*.

Passive, anticausative and psych structures are unaccusative structures as shown and clarified in the previous chapter using active and unaccusative participles as diagnostics. However, using the same diagnostics here, I will show that morphologically-marked reflexive and reciprocal structures are actually unergative structures with base-generated external arguments (see §4.2 and §4.3 below).

In what follows, I will discuss each structure separately. I will start with reflexive structures, their types, and syntactic derivation in §4.2. Then, I will explore the reciprocal structures, their

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<sup>77</sup> In case of the tri-consonantal roots, the second consonant is geminated to fill the second and third consonant slots.

types, and syntactic derivation in §4.3. I will show that on the basis of their syntactic derivation, passive, anticausative, and psych structures constitute one group while reflexives and reciprocals form another group. A summary of the chapter is provided §4.4.

## 4.2 Reflexives

There are two distinct types of reflexive structures in MA. The first of these is formed with the reflexive anaphor, *nafs* 'self', as an argument. This type of reflexive is a highly productive one and it can be formed with almost any transitive verb.

4. al-walad    ʕawwar                  nafs-u  
DEF-boy    hurt.PERF. 3SG.M    self-3SG.M  
  
'The boy hurt himself '

The second type of reflexive structure is formed with the morpheme *ʔat-* being spelled out with the verb to form a reflexive construction.

5. al-walad    ʔatrawwaš  
DEF-boy    wash.PERF.3SG  
  
'The boy washed (himself)/ the boy had a shower'

This reflexive structure is confined to a specific group of verbs that express body care events or grooming events e.g. *rawwaš* “wash”, *makyaʒ*<sup>78</sup> “apply makeup”, and *ʕaṭṭar* “spray perfume” as exemplified below. These verbs allow only Agent subjects.

6. a. *rawwašt*                      *al-bissa*  
wash. PERF.1SG      DEF-cat

'I washed the cat'

- b. *ʔatrawwašt*

wash.PERF.1SG

'I washed myself/ I had a shower'

7. a. *makyaʒt*                      *Sara*  
apply makeup. PERF.1SG      *Sara*

'I did Sara's makeup'

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<sup>78</sup> This verb is derived from the quadr-consonantal root *m.k.y.ʒ* that has to do with makeup. This root has been extracted from the noun *mikya:ʒ* ‘makeup’ (which is borrowed from French *maquillage* ‘makeup’) and incorporated into the Arabic roots inventory.

b. ʔatmakyazt

apply makeup. PERF.1SG

'I applied makeup on myself/ I wore makeup'

8. a. ʕatʔart Sara

spray perfume. PERF.1SG Sara

'I sprayed perfume on Sara'

b. ʔatʕatʔart

wear perfume.PERF.1SG

'I wore perfume'

No such reflexive structures exist for verbs that do not express body action events as shown below for the agentive verb *gatal* 'kill'.

9. a. gattalt at-tamasi:h

kill repeatedly/extensively. PERF.1SG DEF-crocodiles

'I killed the crocodiles'

b. \*ʔatgattalt

got killed

Intended: ‘I killed myself’

Mapping the agentive root *g.t.l* ‘kill’ to the causative/intensive template CaCCaC does not give a causative meaning, but indicates intensity/recursion of the event/action expressed by the verb (see Chapter 1 §1.4.1. At the same time, adding the reflexive morpheme *ʔat-* to the verb *gattal* (see 9b) is ungrammatical and does not induce a reflexive reading.

With verbs like *rawwaš* ‘wash’, *makyaz* ‘apply makeup’, and *ʕaṭṭar* ‘spray perfume’ in examples (6), (7) and (8), the reflexive meaning cannot solely be attributed to the morpheme *ʔat-*, as this morpheme is not exclusively used with reflexives but encodes other intransitive structures as well such as reciprocals in MA. A similar phenomenon appears in Greek (Embick 1998; 2004a) which has three ways to form reflexive structures, two of which are encoded with the non-active morpheme. One of the two reflexive structures with non-active morphology in Greek is formed with transitive verbs prefixed with the morpheme *afto-* ‘self’. The other one, which is relevant to the current discussion, is formed with the non-active morphology only. However, as is the case in MA, the latter structure is restricted to verbs of specific type like *wash*, *comb* and *shave*. This leads Embick (1998; 2004a) to conclude that the non-active morphology does not reflexivize anything, but it is the Encyclopedic semantics of these verbs that make them prone to reflexive interpretations with the target morphology. That is, these verbs are *inherently reflexive* (see Alexiadou et al. (2015) for similar discussion). Inherently reflexive verbs are well-attested in many of the world’s unrelated languages e.g. Greek, German, Amharic, Guugu Yimithirr (an Australian

aboriginal language) and Romanian, among many others (c.f. Kemmer 1993; Amberber 2000; Woods 2008; Alexiadou et al. 2015, among many others). Such verbs commonly express events that normally affect body parts like verbs of grooming and body care. According to Woods (2008) and Kemmer (1993), verbs expressing actions that include body parts like *wash* lend themselves to reflexive interpretations as it is the normal, default case, to wash oneself before washing somebody/something else. That is, the default affected entity by the washing is the performer of the event, hence the Agent and Patient are identical. It is worth noting that the set of verbs encoding reflexives is subject to cross-linguistic variation, and it generally constitutes a closed class of verbs (Woods 2008).

The two types of reflexivization found in MA occur also in different languages including, but not limited to, Dutch, Norwegian, Icelandic, Greek and Hungarian (see Reinhart and Reuland 1993; Dimitriadis and Everaert 2014; Reuland 2017 among others). Building on Fassi Fehri's (2011) classification of the reciprocal structures in SA, I will refer to self-reflexives as syntactic reflexives and to verbal reflexives (*?at*-reflexives) as morphological reflexives<sup>79</sup>. From now on, the focus will be on morphological reflexives since they constitute the intransitive structures that seem to be syncretic with *?an*- agentless structures in MA.

I showed in Chapter 3 that the sole argument in passive, anticausative, and psych structures is an internal argument as evidenced by the participles diagnostic. According to Al-Khawalda (2011), verbs in Arabic can be replaced by one of two participle forms, active participles or unaccusative

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<sup>79</sup> Dimitriadis and Everaert (2014) use the terms, 'reflexive anaphors and 'reflexive verbs' to distinguish the same two types of reflexives in languages like Dutch, Greek and Hungarian.

participles<sup>80</sup>, depending on the syntax of the argument that appears with the verb. In a given verbal structure, the verb can be replaced with a corresponding active participle form if the argument that appears with it is an external argument. In contrast, the verb can be replaced with a corresponding unaccusative participle form if the argument of the verb is an internal one. Using the same diagnostic with reflexives reveals the exact reverse of the pattern of compatibility found in passive, anticausative, and psych structures. Morphological reflexive constructions are compatible with active participles (10a) but are infelicitous with the unaccusative participles (10b), which indicates that the sole argument in morphological reflexives is a logical subject (an external argument) and, hence, morphological reflexives are unergative structures that are distinct from *ʔan-* agentless structures in MA (see Chierchia 2004; Reinhart 1996; 2000; Reinhart & Siloni 2004; 2005 for arguments that reflexive verbs are unergatives, contra Marantz 1984; Kayne 1988; Baker 1996).

10. a. al-walad ʔatrawwaš (Reflexive Structure)

DEF-boy wash.PERF.3SG.M

'The boy washed himself/ the boy had a shower'

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<sup>80</sup> Unaccusative participles are commonly referred to as passive participles or adjectival passives in the existing literature on participles in Arabic. My use of the terminology *unaccusative participles* is justified in Chapter 5.

- b. al-walad mitrawwiš (Active Participle)  
DEF-boy having shower.AP.3SG.M

'The boy had a shower '

- c. \*al-walad mitrawwaš (Unaccusative Participle)  
DEF-boy had shower.UP.3SG.M

Intended: 'The boy had a shower '

Morphological (verbal) reflexive constructions are syntactically intransitive, but semantically they are dyadic predicates as both semantic roles of the base root are syntactically encoded (Reinhart & Siloni 2004; 2005; Dimitriadis & Everaert 2014). Sentence (11) is syntactically intransitive as no object can be added once *ʔat-* appears with the verb, yet the only argument in this sentence, *al-walad* 'the boy', is conceived of as being an Agent and Patient at the same time.

11. al-walad ʔatrawwš (\*nafsu)  
DEF-boy wash. PERF.3SG.M self-3SG.M

'The boy washed himself/ the boy had a shower'

To account for such discrepancy, I follow Reinhart & Siloni's (2004; 2005)<sup>81</sup> proposal that reflexives are technically dyadic entries, but their two arguments are mapped onto the same syntactic function (see also Reinhart 1996; 2000; 2002; Dimitriadis 2004; Everaert et al. 2012; Dimitriadis & Everaert 2014, among others). Reinhart & Siloni (2004; 2005) refer to such an operation as (theta) bundling. The same operation has been proposed by Alsina (1996) who refers to it as *argument-structure binding* and by Rákosi (2008) who uses the term *argument-unification*. While adopting bundling to account for reflexives in MA, I diverge from previous accounts in assuming that this operation is purely syntactic.

According to Reinhart and Siloni (2005), the bundling operation takes care of the  $\theta$ -roles by allowing the assignment of two theta roles to one and the same syntactic slot. They assume that such an operation always operates on an external  $\theta$ -role. That is, the complex role obligatorily merges as an external argument. They define this requisite on bundling as in (12 below):

12. Reflexivization Bundling

$[\theta_i] [\theta_j] \rightarrow [\theta_i - \theta_j]$ , where  $\theta_i$  is an external  $\theta$ -role. (Reinhart and Siloni 2005:12)

Moreover, bundling, according to Reinhart and Siloni (2005, see also Siloni 2012), is enforced by the  $\theta$ -criterion requirement that thematic information carried by the verb be assigned. While they

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<sup>81</sup> Unlike Reinhart & Siloni's (2004; 2005), I do not assume that the clitic marking reflexive and reciprocal constructions reduces Case.

believe this requirement of the  $\theta$ -criterion to be indispensable, they question the biuniqueness condition requiring that every argument receive only one  $\theta$ -role and that every  $\theta$ -role be assigned to only one argument. Besides being empirically problematic, this condition contradicts the premise underlying the bundling operation, so Reinhart and Siloni assert that the biuniqueness condition should be dispensed with. In what follows, I provide a syntactic account for the derivation of reflexive constructions in MA on the basis of the bundling operation in addition to the components developed earlier in this dissertation.

Reflexive structures are derived with inherently-reflexive roots that have the features [+c+m] and [+affected-m] in their semantics for the external and internal arguments, respectively. I assume that inherently reflexive roots constitute a subclass of the agentive roots and are specified with the morphological feature [+reflex] which indicates morphological reflexivity<sup>82</sup>. Such roots are only verbalized via mapping to the template CaCCaC to encode body action events. It is worth stating that [+reflex] roots are not confined to reflexive structures as will be discussed below.

Inherently-reflexive roots are not confined to deriving reflexive structures but may derive syntactically non-reflexive structures as well. In (13) below, the inherently reflexive root merges with its complement DP2 and the  $\sqrt{P}$  merges with little  $\nu$  [+c+m] to be categorized as inherently reflexive verb. Since both the root and little  $\nu$  bear the same values for the feature bundle, the compatibility constraint defined in the previous chapter (see (41) in Chapter 3) is satisfied, and the derivation converges. Given that little  $\nu$  is [+active], an Agent argument DP1 is merged in [Spec,  $\nu$ P]. This DP1 assigns dependent accusative case to the Patient argument in the complement of  $\sqrt{P}$ .

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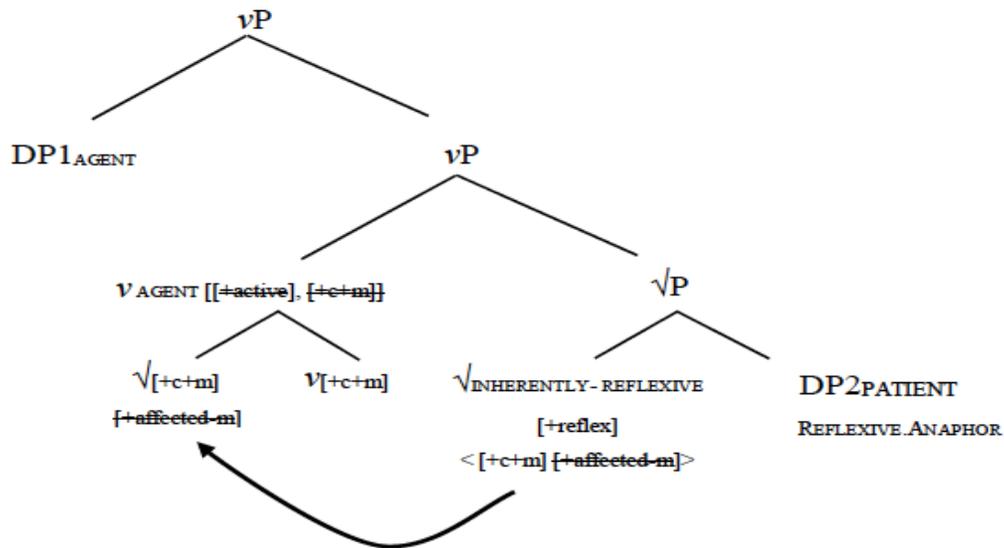
<sup>82</sup> It is this feature, I assume, that ensures bundling with inherently-reflexive roots as discussed below.



14. a. al-walad rawwaš nafs-u  
 DEF-boy wash. PERF.3SG self-3SGM

'The boy had washed himself'

b.



Morphological reflexives, on the other hand, are derived with inherently-reflexive roots when the internal argument is not merged in its canonical position, the complement of the  $\sqrt{P}$ . Rather, it remains on the root to be introduced with the external argument into one and the same syntactic position, [Spec,  $vP$ ], which results in bundling (c.f. Reinhart & Reuland 1993; Reinhart and Siloni 2004; 2005; Siloni 2012).

It is worth stating here that Bundling is confined to inherently-reflexive and inherently-reciprocal roots in MA. These roots, I assume, are specified with the features [+reflex] and

[+recip], respectively. And it is these features that restrict bundling to this subclass of agentive roots. Bundling applies when the external and internal arguments features, <[+c+m] [+affected-m]>, remain together on the root (see (15) below). When an inherently-reflexive root with complex semantics (two theta roles) merges with little  $v_{AGENT}$  [+c+m], it is categorized as a verb and is spelled out with the morpheme *ʔat-*. *ʔat-*, I assume, realizes the internal argument feature that is not checked off since no internal argument is introduced in the complement of  $\sqrt{P}$ . Thus, it signifies that the internal argument is not merged in its canonical syntactic position and indicates that the verb with which it appears bears complex semantics, two semantic roles (as a result of head adjunction between  $v$  and  $\sqrt{V}$ )

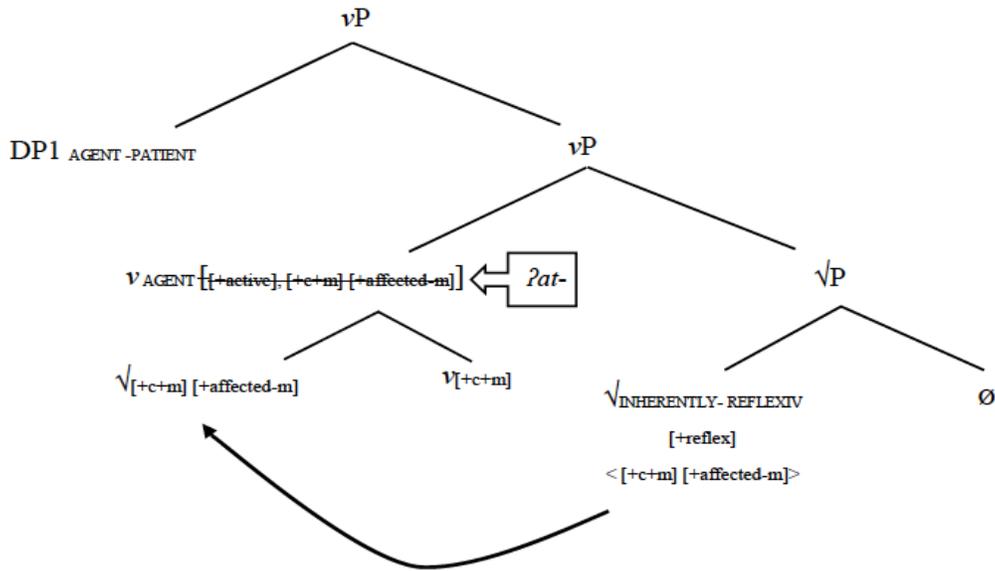
Given that  $v_{AGENT}$  is [+active], an external argument merges in [Spec,  $vP$ ]. Upon the merger of the external argument, the unassigned internal role is bundled with the external role, resulting in the assignment of the two roles to the same syntactic argument. Thus, the external argument in such a structure has the features of Agent and Patient at the same time. This is why these reflexive structures are understood as being semantically transitive while syntactically intransitive.

15. a. al-walad ʔatrawwaš

DEF-boy wash.PERF.3SG

'The boy washed himself/ the boy had a shower'

b.



Thus, while *ʔan-* spells out the functional head,  $v$  [-active], *ʔat-* spells out  $v$  [+active] to indicate bundled  $\theta$ -roles in MA. However, eventually, both morphemes signify lack of a syntactic argument. *ʔan-* signifies that the external argument is not introduced in [Spec, vP] while *ʔat-* indicates that the internal argument is not introduced in its canonical position, as a complement of the  $\sqrt{P}$ .

### 4.3. Reciprocals

Reciprocalization is a universal operation (Siloni 2008). It is cross-linguistically coded via different strategies, argument reciprocals, verbal reciprocals and covert reciprocals (Dimitriadis 2004). Argument reciprocals are derived with reciprocal pronominals while verbal reciprocals are coded with morphological marking on the verb (see also Siloni 2001; Reinhart & Siloni 2005; Siloni 2008; 2012; Dimitriadis 2008; Fassi Fehri 2011). Covert reciprocals are found in English and are defined by Dimitriadis (2004:3) as “symmetric transitive verbs such as *meet*, *kiss* and *marry*, which are interpreted as reciprocal when used intransitively with a plural subject”. MA has both argument

reciprocals and verbal reciprocals; thus, I will be concerned only with these two reciprocal structures for the rest of the chapter. Following Fassi Fehri (2011), I will refer to the former as syntactic reciprocals and to the latter as morphological reciprocals.

- Syntactic reciprocals (Argument reciprocals)

These structures can be coded in MA with almost any verb type using the reciprocal pronoun *baṣaḍ* ‘each other’.

16. Salim U Sami ṣa:f-u baṣaḍ

Salim and Sami see.PERF.3-PL each other

‘Salim and Sami saw each other’

- Morphological reciprocals (Verbal reciprocals)

These reciprocal structures are coded in MA with the morpheme *ʔat-* being attached to symmetric verbs, verbs that entail symmetric actions. These are verbs mapped to the symmetric template Ca:CaC in Arabic (see Chapter 1 §1.4.1 for a discussion of the symmetric template). Such verbs express a symmetrical relation (LeTourneau 1997), and denote situations of social interaction like *ṣ:afaḥ* ‘shook hand with’, *wa:ṣal* ‘contacted with’, and *ṣa:nag* ‘hugged’<sup>83</sup>. Morphological reciprocals constitute a closed set in MA.

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<sup>83</sup> There are two distinct forms for the verb *hug* in MA, a non-symmetric one, *ḍamm* and a symmetric one *ṣa:nag*.



not agentless in MA; rather; they are intransitive, unergative structures like morphological reflexives. Support for this claim is provided by the participles diagnostic. The examples below show that reciprocal verbs are replaced with active participles which, according to Al-Khawalda (2011), indicates that the argument appearing with these intransitive verbs is an external argument. This finding is in line with the claim that morphological reciprocals are essentially unergatives (Bruening 2006; Siloni 2008; 2012, among others).

18. a. Sami U Aḥmad ʔatʃ:afaḥ-u (Reciprocal Structure)

Sami and Ahmad (shake hands with each other). PERF-3PL

'Sami and Ahmad shook hands with each other'

b. Sami U Aḥmad miṭʃa:fhi:n (Active Participle)

Sami and Ahmad shaking hands.AN.PL

'Sami and Ahmad are shaking hands with each other'

c. \*Sami U Aḥmad miṭʃa:fahi:n (Unaccusative Participle)

Sami and Ahmad shook hands.PN.PL

Intended: 'Sami and Ahmad shook hands with each other'

Subjects of reciprocals must always be plural (Williams 1992; Bruening 2006; Fassi Fehri 2011). This condition is satisfied by having a plural DP or a conjunction of singular DPs. That is, subjects of the morphological reciprocals are always semantically plural, but they may or may not be syntactically plural, and, thus, two distinct types of reciprocals can be identified, simple reciprocals and discontinuous reciprocals (see Dimitriadis 2004; Fassi Fehri 2011).

19. a. al-awla:d ?atqa:bal-u (Plural DP)

DEF-boys meet.PERF.3-PL

'The boys met each other'

b. \*al-walad ?atqa:bal (Singular DP)

DEF-boy meet. PERF.3SG

'The boy met'

c. al-walad ?atqa:bal maʕa r-rizza:l (Two singular DPs)

DEF-boy meet.PERF.3SG with DEF-man

'The boy met with the man'

I will discuss simple and discontinuous reciprocals in MA in two different sections below. Following Dimitriadis (2004), I assume that each of the two structures has a distinct transitive alternant.

### 4.3.1 Simple Reciprocals

Simple reciprocals are reciprocal structures with syntactically plural subjects (plural DP). Such structures, I assume, alternate with the argument reciprocals as shown in the following examples (see Fassi Fehri 2011 for a similar proposal for SA).

20. a. Aḥmad U Sami ga:bal-u baʃaḍ  
Ahmad and Sami meet. PERF.3PL each other  
'Ahmad and Sami met each other'

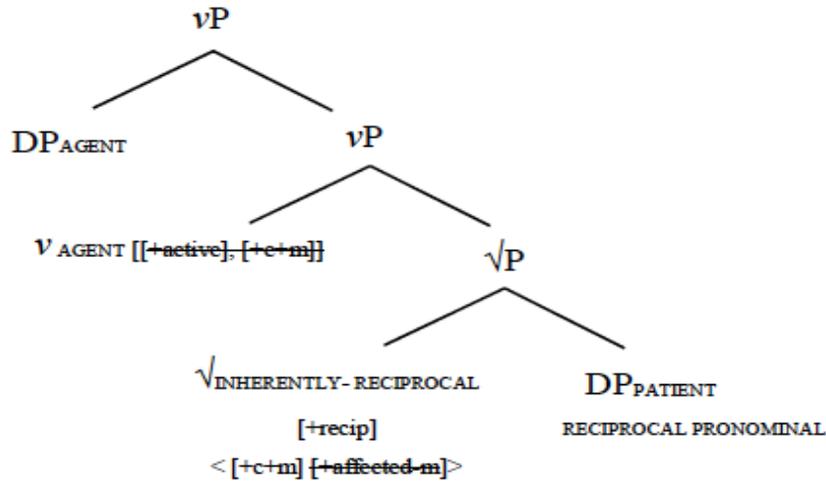
b. Aḥmad U Sami ʔatga:bal-u (\*baʃaḍ)  
Ahmad and Sami meet. PERF.3PL each other  
'Ahmad and Sami met each other'

As is the case with reflexives, morphological reciprocal constructions are syntactically intransitive but semantically transitive (Reinhart & Siloni 2005; Siloni 2008; 2012). Such structures are derived with inherently-reciprocal roots, roots that map to the symmetric template to denote social





b.

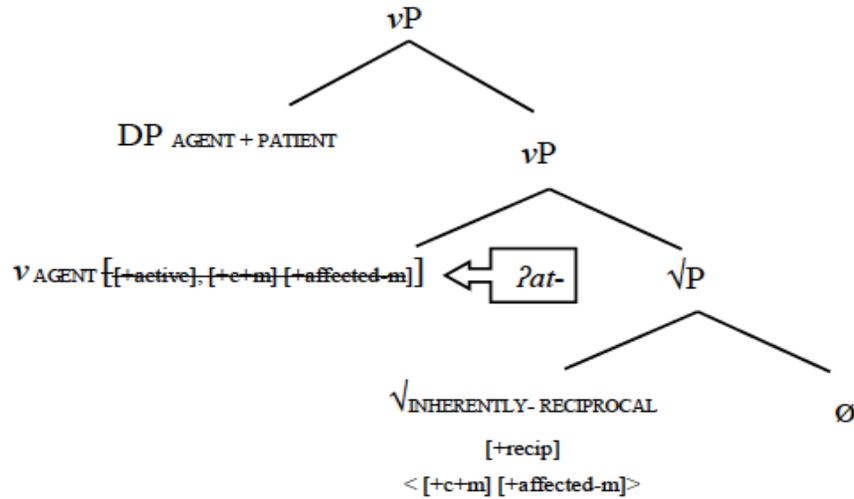


The morphological reciprocal structure presented in (23) below is derived when the internal argument of the inherently-reciprocal root is not merged in its canonical position, as a complement of the  $\sqrt{P}$ , but remains on the root. An inherently-reciprocal root with complex semantics is categorized as a reciprocal verb upon merging with  $v_{AGENT}$  [+c+m] and its complex semantics is signified with the morpheme *ʔat-*. Given that little *v* is [+active], the external argument is introduced in [Spec,  $vP$ ]. Upon the merger of the external argument, the unassigned internal role is bundled with the external role, resulting in the assignment of the two roles to the same syntactic argument. Bundling is insured in such structures given that the root bears the feature [+recip].

23. a. ar-riʒa:l ʔatʃa:faħ-u  
 DEF-men shake hands. PERF-3PL

'The men shook hands with each other'

b.



#### 4.3.2 Discontinuous Reciprocals

Discontinuous reciprocals are structures in which the logical subject of the reciprocal verb is split between the syntactic subject and a comitative argument (see Dimitriadis 2004; König & Gast 2002; Fassi Fehri 2011, among others). Discontinuous reciprocals are found in very many languages around the world, including Hebrew, Greek, German, Hungarian, Japanese, Polish; Russian and Serbian (Dimitriadis 2004). However, they are restricted to morphological reciprocals and never appear with syntactic reciprocals (Dimitriadis 2008)<sup>85</sup> (see 24 a, b &c).

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<sup>85</sup> Dimitriadis (2008) uses the terms *verbal reciprocals* and *argument reciprocals* for morphological and syntactic reciprocals, respectively.

24. a. (Syntactic Reciprocity)

Salim U Sami ga:bal-u (\*maʕa) baʕaɖ

Salim and Sami meet. PERF.3-PL with each other

‘Salim and Sami met each other’

b. (Simple Morphological Reciprocity)

Sami U Sara ʔatga:bal-u (maʕa baʕaɖ)

Sami and Sara meet. PERF.3-PL with each other

‘Sami and Sara met with each other ’

c. (Discontinuous Morphological Reciprocity)

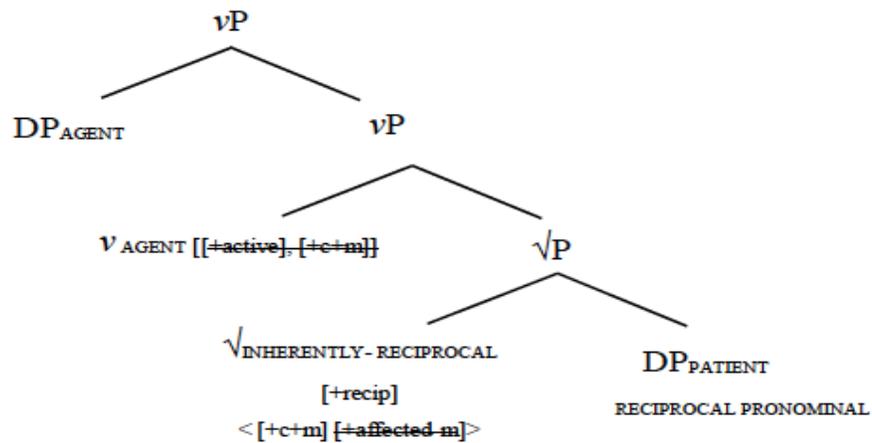
Sami ʔatga:bal \*(maʕa Sara)

Sami meet. PERF.3SG with Sara

‘Sami met with Sara ’

The sentence in (24a) is a transitive agentive structure in MA (see previous sections and (25) below).

25.



The intransitive (simple) reciprocal alternant of (24a) is shown in (24b). This alternative construction is derived when the internal semantic role is not mapped onto its canonical position in the complement of  $\sqrt{P}$  but remains on the root. As stated earlier, an inherently-reciprocal root with complex semantics is verbalized as a reciprocal verb and is spelled out with *ʔat-*. In discontinuous reciprocal constructions, the external role of the reciprocal verb is introduced in [Spec, vP] while the internal role is merged as a comitative argument, in the complement of a PP as shown in (26) below.



27. a. (Discontinuous Morphological Reciprocity)

Sami ʔatga:bal \*(maʕa Sara)

Sami meet. PERF.3SG with Sami

'Sami met with Sara '

b. (Discontinuous Morphological Reciprocity)

Sara ʔatga:bal-at \*(maʕa Sami)

Sara meet. PERF .3SG-F with Sami

'Sara met with Sami'

According to Dimitriadis (2004), discontinuous reciprocals cannot be derived from the corresponding simple reciprocals. Moreover, he argues that the comitative phrase in reciprocal constructions is not part of a discontinuous subject, but it is syntactically (and semantically) distinct, and, thus, discontinuous reciprocals must be interpreted as two-place predicates. Other analyses of discontinuous reciprocals view them as alternants of the simple reciprocals derived through transformation or extraposition (c.f. Vitale 1981; Mchombo & Ngunga 1994; Frajzyngier 1999). I am not going to elaborate on the analysis of discontinuous reciprocals and interested readers are referred to (Dimitriadis 2004; 2008; Hurst 2010, among others cited in this section).

According to Siloni (2001), the reciprocalization operation is reminiscent of the reflexivization operation, thus, I refer to the morphological marking on both structures as a reflexive morpheme. Neither reflexives nor reciprocals are productive in MA but constitute closed sets of verbs.

To sum up, reflexive and reciprocals are actually syntactically distinct from passive, anticausative, and psych structures. The latter structures are intransitive agentless structures in MA while the former ones are structures that have no syntactic internal argument. The morpheme marking the latter group, *ʔan-/ʔat-* has been shown to spell out a non-active functional head. On the other hand, *ʔat-* on reflexive and reciprocal structures spells out a verb with complex semantics. The property that both morphemes have in common is indicating that a syntactic argument is not merged in its canonical position.

It is worth stating here that  $v_{\text{AGENT}}$  is a functional projection where the semantics of the suppressed arguments is still available, thus the intransitive structures involving  $v_{\text{AGENT}}$ , namely, passive, reflexive, and reciprocal constructions (despite being syntactically intransitive) are all semantically transitive. That is, their unrealized arguments are semantically accessible even if they are not phonetically realized.

#### 4.4 Summary

In this chapter I discuss reflexive and reciprocal structures in MA and distinguish them from the unaccusative structures discussed in the previous chapter. It has been shown that while passive, anticausative and psych *ʔan-/ʔat-* structures are unaccusative constructions, reflexive and reciprocal *ʔat-* structures are unergative structures. Moreover, *ʔan-/ʔat-* on unaccusative verbs spells out non-active [-active] functional head,  $v$ , whereas *ʔat-* on unergative verbs indicates non-projected internal argument whose semantics bundles with the external argument upon introduction of the latter in [Spec,  $v$ P].

## Chapter 5

### Unaccusative Participle Structures

#### 5.1 Introduction

In Arabic, participles appear in two distinct forms known as *ʔism al-faʕil*, the subject/Agent nominal or the active participle and *ʔism al-mafʕu:l*, the object/Patient nominal or the unaccusative participle<sup>87</sup> (Abu-chacra 2007). These are the equivalent of the English present participles and past participles, respectively. Arabic participles have no fixed time reference and, hence, are based on a distinction in voice, active participles vs. unaccusative (passive) participles, in contrast with English participles that are based on tense (see Holes 2004; Ryding 2005).

The contrast between the two participle structures in Arabic is often described in terms of argument structure such that the active participle is used in association with the external argument of the corresponding verbal structure, whereas the unaccusative participle is associated with the internal argument of its corresponding verbal structure (Cuvalay-Haak 1997). According to Holes (2004: 149) “[t]he basic difference between the two types of participles is that the active describes the state in which the subject of the verb from which it is derived finds itself as a result of the action or event that the verb describes, whereas the passive refers to the state in which the object or complement of the verb from which it is derived finds itself after the completion of the

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<sup>87</sup> These structures are commonly referred to as passive participles or adjectival passives in the recent literature on participles in Arabic, but I will refer to them as unaccusative participles as will be justified in subsequent parts of this chapter.

action/event”<sup>88</sup>. The following examples clarify the association of active and unaccusative participles with external and internal arguments, respectively<sup>89</sup>.

1. al-walad kasar al-ba:b  
DEF-boy break.PERF.3SG.M DEF-door  
‘The boy broke the door’
  
2. al-walad ka:sir al-ba:b (Active Participle)  
DEF-boy break.AP. 3SG.M DEF-door  
‘The boy has broken the door’
  
3. \*al-walad maksu:r al-ba:b (Unaccusative Participle)  
DEF-boy broken.UP.3SG.M DEF-door  
‘The boy is/has been broken the door’

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<sup>88</sup> It is worth noting here that in this dissertation I do not adopt the premise that participles are derived from verbal structures as will become clear in subsequent sections of this chapter.

<sup>89</sup> Throughout this chapter, I translate unaccusative participle structures using the English present tense, past tense, or present perfect. In doing so, I follow my intuitions as a native speaker of MA. It is important to note here that it is not easy to set the participle structure within a specific time frame as it is resultative, it indicates a present state resulting from perfective action. The state holds but the action that brought it about has been completed and in that sense is perfective (see Mansouri 2016).

4. \*al-ba:b ka:sir (Active Participle)

DEF-door break.AP. 3SG.M

Intended: ‘The door has broken’

5. al-ba:b maksu:r (Unaccusative Participle)

DEF-door broken.UP.3SG.M

‘The door is /has been broken’

The differences between Standard and Dialectal Arabic has resulted in a difference in the participle system, such that participle development in the different Arabic dialects has somehow been morphologically and syntactically different from that in SA (Holes 2004). My focus is going to be on unaccusative participles in MA (also referred to as patient nominals in Classical and Modern Standard Arabic grammars).

Due to their ambiguity and multi-functionality, unaccusative participles have received various classifications as past participles, nominal passives<sup>90</sup>, adjectival passives, deverbal adjectival or passive participle structures (c.f. Mughazi 2001; Embick 2004b; Holes 2004; Ryding 2005; Abu-Chacra 2007, Alexiadou et al. 2015; among others cited here). In this dissertation, I will be referring to these structures as unaccusative participles. This classification is justified because the structural subject in these structures is not the logical subject of the participle, but rather their

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<sup>90</sup> This goes along with Alexiadou (2009) and Borer’s (2013) argument that certain nominalizations can be passive.

internal argument as shown in (1), (3), and (5) above. That is, their subjects are derived rather than base-generated, which is the case in unaccusative structures in general. The unaccusative participle structures are unaccusative in the structural sense that the external argument is not projected (see Chapter 3, §3.2.2 for a detailed discussion of unaccusativity).

Unaccusative participles generally have a perfective interpretation as they indicate that an event has already occurred, and an entity has been affected by it (Holes 2004; Abu-Chacra 2007, Monsouri 2016). Moreover, according to Abdel-Malek (1972: P.163), these structures imply past time and passiveness, and “passiveness” refers to the fact that the action indicated by the participle has been endured by someone or something.

In this chapter I will discuss the syntactic properties of the different structures encoded by the template *maC.Cu:C*, and their general classification as unaccusative participles. Such agentless structures are interesting because they share the property of absence of the external arguments with passive structures. Moreover, I argue that the category of unaccusative participles encompasses several structures that have not been thoroughly identified or analyzed in the traditional (and even the existing) approaches to these structures (another proposed syncretism in MA). While the existing literature on participles in Arabic assumes their derivation from a verbal base, I argue, adopting a DM framework, that participles constitute an autonomous class derived by merging acategorical roots with a functional head *ptcpl*, just the same way nouns, verbs, and adjectives are derived with little *n*, *v*, and *a*, respectively.

This chapter proceeds as follows: §5.2 discusses the derivation of unaccusative participles from tri-consonantal and quadri-consonantal roots and their general classification as patient nominals or deverbal nominals. In §5.3 I highlight the verbal, nominal, and adjectival, properties of unaccusative participles in MA. In §5.4 I introduce and discuss two major classes of unaccusative

participles, namely, lexicalized nominal participles and (eventive) unaccusative participles. In §5.5 I lay out the theoretical assumptions on which I base my account for the participles; then, I introduce my syntactic account for the participle structures in general and for the class of unaccusative participles, and their subclasses of passive, anticausative, and psych participles, in particular. A summary of the whole chapter along with the basic findings is provided in §5.6.

## **5.2 Unaccusative participles<sup>91</sup>**

Unaccusative participles are morphological forms that refer to the entity affected by the action denoted by the verb (Gadalla 2000; 2010)<sup>92</sup>. They denote the result or effect of a completed action (Abu-chacra 2007). Such structures indicate that an event has taken place without any reference to the subject/Agent, but the focus is on the entity that has undergone the action and affected by it (see Ryding 2005 among others cited here). The affected entity (which is always in the nominative case)<sup>93</sup> appears as an argument of the unaccusative participle and is referred to (in Classical and Modern Standard Arabic grammar) as subject substitute or passive subject (Gadalla 2010). Only

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<sup>91</sup> I will be discussing participles in MA but might refer occasionally to SA as needed to highlight particular contrasts between SA and MA or to clarify certain aspects that are more prominent in SA e.g. case marking.

<sup>92</sup> None of the works cited in this dissertation uses the terminology (unaccusative participles) but refer to such participles as patient nominals, passive participles, or adjectival passives.

<sup>93</sup> Such case is morphological (overt) in SA but abstract (covert) in MA.

transitive verbs have corresponding unaccusative participle forms (Abdel-Malek 1972; Ryding 2005, and contra Al-Rajhi 1993)<sup>94</sup>.

Unaccusative participles are formed with triradical (tri-consonantal) roots using the pattern maC.Cu:C (see Table 23). Where roots have four or more consonants, they are formed using the pattern muCaC.CaC. This pattern resembles the imperfective verbal template for the same quadri-consonantal roots but with a different initial sequence, *m(u-)* instead of the imperfective morpheme *yi-*, and a different vowel in the last syllable, [a] instead of [i] (see Table 24) (cf. Holes 1995; Gadalla 2000; 2010; Ryding 2005, and Abu-Chacra 2007 for a detailed discussion of the unaccusative participles).

**Table 23: Deriving unaccusative participles from tri-consonantal roots**

Root	UP template	UP form	Meaning
k.t.b	maC.Cu:C	mak.tu:b	‘written’
k.s.r	maC.Cu:C	mak.su:r	‘broken’
g.t.l	maC.Cu:C	mag.tu:l	‘killed’

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<sup>94</sup> This difference in whether unaccusative participles can be derived from monadic roots is attributed to the contrast between Standard and Dialectal Arabic.

**Table 24: Deriving unaccusative participles from quadri-consonantal root**

<b>Root</b>	<b>Imperfective template</b>	<b>Imperfective verb form</b>	<b>UP template</b>	<b>UP form</b>
r-tt-b	yiCaCCiC	yirattib  'arrange'	m(u)CaC.CaC	m(u)rattab  'arranged'
d-h-r-ʒ	yiCaCCiC	yidaħriʒ  'roll'	m(u)CaC.CaC	m(u)dahraʒ  'rolled'

Arabic grammarians have referred to unaccusative participles as a class of nouns (patient nominals) that are derived from passive verbal structures<sup>95</sup>, or as adjectives (Hassan 1980; Xrakovskij 1988; Al-Baba & Al-Khuwayski 1988). Wright (1967) considers these structures “deverbal nouns”, yet he states that they are adjectives by nature, a point he shares with Thackston (1984) who justifies his classification of the unaccusative participles as adjectives on the basis of their functions and morphological behavior. Ultimately, all Arabic grammarians seem to have a consensus that unaccusative participles can have an eventive reading<sup>96</sup> and, thus, function like verbs (see Gadalla 2010). The verbal, nominal, and adjectival properties of the unaccusative participles are discussed in the subsequent section.

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<sup>95</sup> There is no consensus among Arabic scholars as to whether the unaccusative participles (passive participles) are derived from active or passive verbs. As stated earlier, in the present study I am not assuming a verbal base for participles but argue for their derivation from acategorical root on a par with other categories as nouns, verbs, and adjectives.

<sup>96</sup> I am assuming that such eventivity is a conceptual rather than a grammatical one (see § 5.1 below)

### **5.3 Verbal, Nominal and Adjectival properties of the unaccusative participles**

One important fact about unaccusative participles is that they have properties of verbs, nouns and adjectives (Mughazi 2001, Gadalla 2000; 2010). This section outlines the verbal, nominal and adjectival properties of unaccusative participles in MA (the general properties of verbs, nouns, and adjectives in MA are outlined in Chapter 1).

#### **5.3.1 Verbal properties**

In this section I will focus on the shared properties between verbs and unaccusative participles. Unlike verbs, participles have no fixed time reference and they do not take the progressive and future affixes *bi-* and *ħa-* which set them apart from ordinary verbs.

##### **5.3.1.1 Argument structure/Case assignment**

Just like verbs, unaccusative participles take arguments. The sole argument that appears with the unaccusative participles is equivalent to the object of the corresponding transitive verbal structure (see 6) and is referred to as the subject substitute or passive subject (Gadalla 2010). Thus, the naming of unaccusative participles as patient nominals emerges from the fact that they only take patients/affected entities as their arguments. These arguments, in turn, are always assigned nominative case<sup>97</sup>.

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<sup>97</sup> As stated earlier, Case is abstract in Makkan Arabic

6. a.    rabat                    al-walad    al-ḥabil  
          knot.PERF.3SG.M    DEF-boy    DEF-robe

‘The boy knotted the robe’

b.    al-ḥabil    marbuṭ  
  
      DEF-robe   knotted.UP.3SG.M

‘The robe is knotted/tied’

For ditransitive structures like (7), the corresponding unaccusative participle structure takes both objects as its arguments. Either argument can be the structural subject of the unaccusative participle. If the direct object becomes the structural subject, the indirect object appears after the preposition *li-* ‘to’ (as an adjunct). Examples (8) and (9) show that unaccusative participles agree with their arguments in gender. The structural subject in (8) is masculine while in (9) it is feminine, and, accordingly, the unaccusative participle has a masculine form in (8) and a feminine form in (9).

7.    manāḥ                    al-mudarris   aṭ-ṭa:lib            al-za:ʔiza  
          give. PERF.3SG.M    DEF-teacher   DEF-student    DEF-prize

‘The teacher gave the student the prize’

8. at-ṭa:lib mamnu:ḥ al-za:ʔiza  
DEF-student given. UP. 3SG.M DEF-prize

‘The student is given the prize’

9. al-za:ʔiza mamnu:ḥ-a li-ṭ-ṭa:lib  
DEF-prize given. UP.3SG.F to-DEF-student

‘The prize is given to the student’

### 5.3.1.2 Modification by external-argument-related adjuncts

Just like verbs unaccusative participles can be modified by adverbs and are compatible with instrumental and causer prepositional phrases.

10. al-ḥabil marbu:ṭ bigu:wa  
DEF-rope knotted.UP. 3SG.M tightly

‘The rope is knotted tightly’

11. al-guza:z madhu:n bi-lon ʔaḥmar  
DEF-glass painted.UP.3SG.M with-colour red

‘The glass is/was painted with red colour’

12. al-ba:b mařtu:b min al-ħara:ra  
DEF-door scratched.UP.3SG.M from DEF-heat

‘The door is/was scratched from the heat’

Moreover, unaccusative participles, just like the verbal passive, are compatible with locative modifiers:

13. a. ar-ruz mařbu:x řala l-faħam  
DEF-rice cooked.UP.3SG.M on DEF-coal

‘The rice was/is cooked on coal’

b. al-ħabil marbu:ř fi ř-řubba:k  
DEF-robe tied.UP.3SG.M to DEF-window

‘The rope was/is tied to the window’

c. al-kita:b maħtu:ř řala ř-řa:wla  
DEF-book put.UP. 3SG.M on DEF-table

‘The book was/is placed on the table’

### 5.3.2. Nominal properties

Unaccusative participles share properties with nouns and adjectives, in addition to their verbal properties. In what follows I will refer to the shared properties of unaccusative participles with nouns and adjectives together as nominal properties and specify other properties as purely nominal or purely adjectival.

#### 5.3.2.1 Verbless sentences (Predication)

Just like nouns, adjectives and prepositions, unaccusative participles function as predicates in verbless sentences (see Chapter 2 for a detailed discussion of verbless sentences):

14. a. ar-ri33 a:l wazi:r  
DEF-man minister  
'The man is a minister'

b. ar-ri33 a:l ħaki:m  
DEF-man wise  
'The man is wise'

c. ar-ri33 a:l fi l-bet  
DEF-man in DEF-home  
'The man is at home'

- d. ar-riʒʒ a:l magtu:l / maghu:r  
DEF-man killed/ maddened. UP.3SG.M  
'The man is killed/upset'

### 5.3.2.2 Definiteness: The definite article *al-*

Just like nouns and adjectives, unaccusative participles may appear with the definite article *al-*.

15. al-mašru:b ba:rid  
DEF-drink. UP.3SG.M cold. M

'The drink/juice is cold'

16. šuft al-mašru:ʕ  
see. PERF.1SG DEF-project.UP.3SG.M

'I saw the project'

### 5.3.2.3 Negation

Unaccusative participles are negated with the nominal negation particle *mu:* and are incompatible with the verbal negation particle *ma:*

17. al-ba:b    mu:    maksu:r  
DEF-door   not   broken.UP.3SG.M

‘The door is not broken’

18. \*al-ba:b    ma:    maksu:r  
DEF-door   not   broken.UP.3SG.M

Intended: ‘The door is not broken’

### **5.3.3 Purely Nominal Properties**

In this section I discuss the properties that unaccusative participles share with nouns in MA. These properties include inflection (5.3.3.1) , *eda:fa* (5.3.3.2), and functioning as arguments (§5.3.3.3).

#### **5.3.3.1 Inflection (number)**

Just like nouns, unaccusative participles inflect for number and, thus, have singular, dual, and plural forms:

**Table 25: Singular, dual and plural forms of unaccusative participles**

<b>Singular</b>	<b>Dual</b>	<b>Plural</b>
mašru:ʕ ‘project’	mašru:ʕen ‘two projects’	mašru:ʕa:t ‘projects’
mašru:b ‘drink’	mašru:ben ‘two drinks’	mašru:ba:t ‘drinks’

### 5.3.3.2 *Eḏa:fa* (The construct phrase)

Unaccusative participles can take pronominal clitics and be modified by a following noun which are properties of nouns in MA.

19. mašru:ʕ-i

project.UP. 3SG.M -1SG

‘my project’

20. mašru:b            ar-rumma:n

drink. UP.3SG.M    DEF-pomegranate

‘the pomegranate drink/juice’

### 5.3.3.3 Unaccusative participles as arguments

Just like nouns unaccusative participles may function as subjects, objects or objects of prepositions.

21.     šuft                 al-mašru:ʕ  
          see. PERF.1SG   DEF-project. UP.3SG.M

‘I saw the project’

22.   al-mašru:ʕ                 kallaf                 kati:r  
          DEF-project. UP.3SG.M   cost. PERF.3SG.M   a lot/much

‘The project cost a lot.’

23.   saʔalt                 ʕan                 al-mašru:ʕ  
          ask. PERF.1SG   about   DEF-project. UP.3SG.M

‘I asked about the project.’

### 5.3.4 Adjectival properties

This section introduces the adjectival properties of unaccusative participles. Just like adjectives, unaccusative participles are modified with *marra* ‘very’ (§5.3.4.1). Moreover, they exhibit the same pattern of agreement with the modified noun as adjectives (§5.3.4.2).

### 5.3.4.1 Modification with *marra* ‘very’

Adjectives, but not nouns, can be modified by words like *marra* ‘very’. Since unaccusative participles can also be modified by *marra* ‘very’, they pattern with adjectives. As is the case with predicative adjectives, *marra* ‘very’ may precede or follow the unaccusative participle.

24. a. al-walad (marra) maghu:r (marra)  
DEF-boy (very) maddened/upset. UP.3SG.M (very)  
‘The boy is very upset’

- b. al-ba:b (marra) maksu:r (marra)  
DEF-door (very) broken. UP.3SG.M (very)  
‘The door is very broken’

### 5.3.4.2 Agreement pattern

The pattern of agreement between unaccusative participles and their arguments is parallel to the pattern of agreement between adjectives and the nouns they modify (see Chapter 1). As is the case with adjectives, whether or not the argument of the unaccusative participle is [ $\pm$ human] affects the pattern of agreement. The data in table (26) indicates predicative adjectival structures, thus, agreement in definiteness is precluded.

**Table 26: Agreement between unaccusative participles and their [+human] arguments**

The (passive) subject			The UP	Meaning
Number	Gender	Definiteness		
SG	M	al-walad DEF-boy	maghu:r upset.3SG.M	‘the boy is upset’
	F	al-bint DEF-girl	maghu:ra upset.3SG.F	‘the girl is upset’
DU	M	al-walad-en DEF-boy-DU	maghu:ri:n upset.3PL.M	‘the two boys are upset’
	F	al-bint-en DEF-girl- DU		‘the two girls are upset’
PL	M	al-awla:d DEF- boys	maghu:ri:n upset.3PL.M	‘the boys are upset’
	F	al-bana:t DEF-girls		‘the girls upset’

Unaccusative participles agree with their singular, human arguments in number and gender, and with their non-singular, human, arguments in number only. Unaccusative participles take the plural (masculine)<sup>98</sup> forms with dual and plural arguments regardless of their gender.

When the argument of the unaccusative participle is non-human, agreement in number and gender appears only with singular arguments. All non-singular arguments appear with the singular feminine form of the unaccusative participle, regardless of their semantic gender.

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<sup>98</sup> This form is considered gender-neutral in MA but is the masculine form in SA.

**Table 27: Agreement between unaccusative participles and their [-human] arguments**

The subject			The UP	Meaning
Number	Gender	Definiteness		
SG	M	al-ba:b DEF-door	maksu:r broken.SG.M	‘The door is broken’
	F	al-ka:sa DEF-glass	maksu:ra broken.SG.F	‘The glass is broken’
DU	M	al-ba:ben DEF-door- DU		‘The two doors are broken’
	F	al-ka:saten DEF-glass- DU		‘The two glasses are broken’
PL	M	al-abwa:b DEF-doors		‘The doors are broken’
	F	al-ka:sa:t DEF-glasses		‘The glasses are broken’

Having discussed the verbal and nominal properties of the unaccusative participles, I would like to highlight some important points regarding these forms. First, not all unaccusative participle forms take arguments. While the unaccusative participle takes an argument in (25a), it is actually an argument itself in (25b)

25. a. al-ba:b maksu:r  
DEF-door broken. UP. 3SG.M

‘The door is broken’

b. al-mašru:ʕ zadi:d  
DEF-project. UP. 3SG.M new

‘The project is new’

Second, unaccusative participles are only compatible with manner modifiers when they take arguments:

26. a. al-ba:b maksu:r bilʕinya  
DEF-door broken. UP.3SG.M intentionally

‘The door is intentionally broken’

b. \*al-mašru:ʕ                      ʒadi:d      bilʕinya  
 DEF-project. UP. 3SG.M    new            intentionally

‘The project is intentionally new’

Third, unaccusative participles are only compatible with *marra* ‘very’ when they take arguments:

27. a.      al-ba:b      marra    maksu:r  
 DEF-door    very      broken. UP.3SG.M

‘The door is very broken’

b.      \*šuft                      al-mašru:ʕ                      marra  
 see. PERF.1SG    DEF-project.UP.3SG.M    very

‘I saw the project very’

The hybrid nature of the unaccusative participles is not specific to MA but is well attested cross-linguistically. Several accounts have been proposed to explain this phenomenon, all of which assume that unaccusative participles do not form a uniform class but consist of two or more subclasses. The split between the different subclasses of the participles has been based on presence vs. absence of a Voice layer or an implicit Agent or Cause argument, or on some semantic differences that directly reflect different syntactic structures (c.f. Kratzer 1994;1996; 2000;

Anagnostopoulou 2003; Embick 2004b; Meltzer-Asscher 2011; Alexiadou et al. 2014b, 2015)<sup>99</sup>. In what follows I determine the basis of the split of unaccusative participles in MA. In doing so, I argue that unaccusative participles encompass three distinct subclasses in MA, namely, agentive, decausative and psych participles. Before doing so, I want to highlight the fact that a group of unaccusative participles have been lexicalized as substantive/referential nouns, and it is this group of participles that exhibits purely nominal properties in MA.

#### **5.4. Lexicalized vs. Unaccusative Participles<sup>100</sup>**

Given the hybrid nature of the unaccusative participles, it is clear that they do not form a unified group. According to Arabic grammarians unaccusative participles can be nouns or adjectives or they can be eventive (Ryding 2005, Mansouri 2016). However, no analysis that discusses the different syncretized structures encoded by the unaccusative participles in MA has yet been provided, which is the goal of this chapter. My basic assumption is that all participles are syntactically derived, but a small group has been lexicalized. Thus, I assume that unaccusative participles are of two major groups: lexicalized participles, these are participles that have been lexicalized as substantive/referential nouns, and unaccusative participles, these are participles that obligatorily take arguments and may function as verb substitutes. While the former group functions

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<sup>99</sup> The term *Adjectival /Passive Participles* is used in the cited works instead of *Unaccusative Participles*, the term adopted in this dissertation.

<sup>100</sup> These structures are referred to as *Passive Participles* (or *adjectival passives*) in the existing (current) literature of Arabic participles, but I use a more general term here since I assume the existence of several subclasses under this class of participles, one of which is the *Passive Participles*.

as pure nouns the latter exhibit verbal and adjectival properties. It is the latter group of participles that is relevant to my discussion of transitivity alternations in MA. Following is a discussion of each group.

#### **5.4.1 Lexicalized participles**

Some unaccusative participles have evolved into use as pure nouns without any verbal or adjectival properties. Such participles have a wide range of meanings and it is not always possible to see immediately how their form relates to their meaning as they have acquired non-compositional denotations. Such participles, I assume, have been lexicalized as referential, substantive, nouns in MA (see Holes 2004 and Ryding 2005 for discussion of participles as substantives in SA).

The term lexicalization is ambiguous since it has been used in several ways. This term may refer to a synchronic process for the coding of conceptual categories (c.f. McCawley 1968; Talmy 2000; Jackendoff 1990, 2002; Brinton & Traugott 2005). Lexicalization is also used diachronically to indicate adoption into the lexicon, falling outside the productive rules of grammar, a shift from implied to conventional meaning, or a general semantic change (c.f. Bauer 1983; Anttila 1989; Blank 2001; Brinton & Traugott 2005; Bergs & Brinton 2012).

As I am adopting a DM framework where there is no lexicon in the sense assumed in other generative theories, I use the term lexicalization to indicate idiomatic, non-compositional conventionalized meaning that is not derivable and, thus, requires Encyclopedia entry.

I now turn to discussion of the properties of substantive lexicalized participles in MA. Arabic nouns are characterized by five inflectional features, namely, gender, humanness, number, definiteness, and case (Ryding 2005). Since case is abstract in MA, we are left with gender,

humanness, number, and definiteness. Just like basic nouns, lexicalized unaccusative participles are assigned arbitrary or natural gender on the basis of the humanness of their referents. Lexicalized participles with human referents have both feminine and masculine forms that correspond to the biological gender of their human referents (see table 28 below).

**Table 28: Lexicalized participles with human referents**

<b>Masculine UP</b>	<b>Feminine UP</b>	<b>Meaning</b>
muwaZZaf	muwaZZaf-a	employee
mawlu:d	mawlu:d-a	baby
masʔu:l	masʔu:la-a	administrator
mubtaʕas	mubtaʕas-a	a person sent abroad by the government to pursue high education

As shown in table (28), some nouns of this group correspond to English nouns ending in /-ee/ ‘employee’<sup>101</sup> or /-or/ ‘administrator’. Like ordinary nouns, this group of participles have dual and plural forms for each gender.

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<sup>101</sup> Ryding (2005; 113) states that “Passive participles acting as nouns often correspond to English nouns ending in /-ee/ ‘employee’ (muwaZZaf).”

**Table 29: Number inflections for lexicalized participles with human referents**

<b>Gender</b> <b>Number</b>	<b>Masculine UP</b>	<b>Feminine UP</b>	<b>Meaning</b>
Singular	muwaZZaf	muwaZZafa	employee
Dual	muwaZZafen	muwaZZafaten	two employees
Plural	muwaZZafi:n	muwaZZafa:t	more than two employees

Lexicalized participles with non-human referents have arbitrary semantic gender, so they can be either masculine or feminine in form, and they exhibit all the properties of ordinary nouns (see table 30).

**Table 30: Lexicalized participles with non-human referents**

UP	Form	Meaning	Relevant verb	Meaning
mašru:b	M	drink/juice	širib	drank
mašru:ʕ	M	project	šaraʕ	commenced
mazmu:ʕ	M	total	zamaʕ	collected/gathered
mazmu:ʕa	F	group		
mauðu:ʕ	M	topic	waðaʕ	put
mafhu:m	M	concept	fihim	understood
maktu:b	M	letter/fate	katab	wrote
maṭwiyya	F	brochure	ṭawa	folded
maʕzu:fa	F	musical composition	ʕazaf	performed

The masculine and feminine forms of the same lexicalized participle *mazmu:ʕ* (M) and *mazmu:ʕa* (F) (in table 30 above) have different meanings ‘total’ and ‘group’, respectively. This is not surprising as this same phenomenon is attested with basic nouns, too (see table 11 in Chapter 1). The noun *maktu:b* has two different meanings, ‘letter’ and ‘fate’. In the former meaning, ‘letter’, the lexicalized participle refers to an entity and can be pluralized as *maka:ti:b* ‘letters’. However, when the same form refers to an abstract concept, ‘fate’, it cannot be pluralized. The masculine

nouns of this group take the broken or sound feminine plural forms or both e.g. *mašru:ʕ* ‘project’ is pluralized as *maša:ri:ʕ* (broken plural) or *mašru:ʕa:t* (sound feminine plural).

Comparing the meanings of lexicalized participles with the meanings of the corresponding verbs in table (30) clarifies that the lexicalized participle forms tend to indicate highly specialized senses within their semantic spectrum.

Lexicalized participles of quadrilateral roots function as nouns of place (see Ryding 2005)<sup>102</sup>:

**Table 31: Lexicalized participles of quadrilateral roots**

<b>Unaccusative Participle</b>	<b>Meaning</b>
mustašfa	hospital
muxtabar	laboratory
muntaʒaʕ	resort
muʕtaqal	prison camp
mustawdaʕ	storehouse

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<sup>102</sup> Ryding (2005) uses the term Passive Participle for the Unaccusative participles. Moreover, he assumes, contra the assumption adopted in this thesis, that participles are derived from verbs.

Some lexicalized participles are used idiomatically in the plural form to refer to collective non-human referents (usually prepared foods) and they take the sound feminine plural form (Ryding 2005).

**Table 32: Lexicalized participles referring to collective inanimate entities (I)**

<b>Referential Unaccusative Participle</b>	<b>Meaning</b>
maʔku:la:t	edibles/foods
mašwiyya:t	grilled [meats]
mukassara:t	nuts
muṣallaba:t	canned food
mašru:ba:t	beverages
mutallaza:t	frozen desserts
muṣazzana:t	bakeries

This group may also include items referring to inanimate entities other than food:

**Table 33: Unaccusative participles referring to collective inanimate entities (II)**

<b>Referential Unaccusative Participle</b>	<b>Meaning</b>
muntaʒa:t	‘products’
maʕlu:ma:t	‘information’
maṭbuʕa:t	‘printouts’
muʔallafa:t	‘publications/ published work’

Having discussed the lexicalized participles in MA, I now turn to the group of participles of interest in our discussion of transitivity alternations, unaccusative participles. While lexicalized participles function as pure nouns, unaccusative participles exhibit blended verbal and adjectival properties as shown in the following section.

#### **5.4.2 Unaccusative Participles**

This group of participles exhibit a composite of verbal and adjectival properties. Just like verbs, they take arguments and allow modification by manner modifiers, and on a par with adjectives they appear in verbless sentences (see §5.3.2 above and see Chapter 2 for a discussion of verbless

sentences). They also take the negation particle *ma:* and allow modification by *marra* ‘very’<sup>103</sup>. Thus, these participles are ambiguous between eventive verbs and stative adjectives.

An important property of this group of participles is the obligatory realization of arguments. Just like unaccusative verbs, unaccusative participles take one argument that is always a Patient/Theme (see 28a). This sole argument is the same argument that appears with the corresponding *ʔan*-verb in (28b) and that appears as the internal argument of the corresponding transitive verbal structure in (28c), and the alternant active participle structure in (28d).

28. a.    al-ba:b   maksu:r  
          DEF-door broken. UP.3SG.M

‘The door is broken’

b.    al-ba:b   ʔankasar  
          DEF-door broke. PERF.3SG.M

‘The door broke/was broken’

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<sup>103</sup> Not all unaccusative participles of this class are compatible with *marra* ‘very’ as will be discussed in subsequent parts of this chapter.

c. al-walad kasar                      al-ba:b

DEF-boy broke.PERF.3SG.M DEF-door

‘The boy broke the door’

d. al-walad ka:sir                      al-ba:b

DEF-boy break.AP.M DEF-door

‘The boy has broken the door’

Another property of these participles is that they serve as verb substitutes. That is, they can replace verbs, specifically unaccusative<sup>104</sup> verbs, as shown in the following examples. This property has been assumed to indicate the existence of a verbal base in eventive unaccusative participle structures (cf. Al-Balushi 2011), an assumption that I argue against later in this chapter.

29. a. al-laḥam maṭbu:x                      ʕala na:r ha:dya

DEF-meat cooked.UP.3SG.M on fire low

‘The meat was/is cooked over a low fire’

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<sup>104</sup> *Unaccusative* here encompasses anticausative, middle psych, and passive structures (see Chapter 3).

b. al-laḥam    ʔantabax                      ʕala    na:r    ha:dya

DEF-meat    cooked. PERF.3SG.M    on    fire    low

‘The meat was cooked over a low fire’

30. a. al-kita:b    maḥṭu:ʔ                      fog              aṭ-ʔa:wla

DEF-book    put/placed.UP.3SG.M    on top of    DEF-table

‘The book was/is put/placed on the table’

b. al-kita:b    ʔat-ḥaṭ                      fog              aṭ-ʔa:wla

DEF-book    put/placed.PERF.3SG.M    on top of    DEF-table

‘The book was put/placed on the table’

31. a. al-maqa:l    maṭbu:ʕ                      ʕala    waraq    ʔaʕfar

DEF-article    printed. UP.3SG.M    on    paper    yellow

‘The article was/is printed on yellow papers’

b. al-maqa:l    ?antabaʕ                      ʕala    warag    ?aʕfar  
 DEF-article    printed. PERF.3SG.M    on    paper    yellow

‘The article was printed on yellow papers’

It is worth noting here that while the examples in (29b), (30b), and (31b) indicate unaccusative eventive structures, the ones in (29a), (30a), and (31a) are resultative structures indicating a state that has come into existence after the final transition of the event. For example, (29a) means that the rice is in the state of being cooked (done) as a result of the completed event of cooking (see Holes 2004; Ryding 2005, Mansouri 2016 for relevant discussion of unaccusative participles<sup>105</sup> as resultatives).

This group of unaccusative participles are compatible with modifiers such as Agent-oriented adverbs, instrumental PPs, *from*-phrases, and locative modifiers (see the examples below).

Agentive Adverb

32. al-ħa:ris    magtu:l                      biwaħši:ya  
 DEF-guard    killed. UP.3SG.M    fiercely

‘The guard was fiercely killed’

---

<sup>105</sup> The authors cited here refer to Unaccusative Participles as Passive Participles.

### Instrumental PP

33. al-walad maxnu:g bi-ħabil  
DEF-boy choked.UP.3SG.M with-rope  
‘The boy was choked with a rope’

### From-Phrase (CauserPP)

34. al-ba:b maksu:r min al-hawa  
DEF-door broken.UP.3SG.M from DEF-wind  
‘The door is broken from the wind’

### Locative Modifiers

35. ar-ruz maṭbu:x ʕala al-faħam  
DEF-rice cooked.UP.3SG.M on DEF-coal  
‘The rice is cooked on coal’
36. al-ħabil marbu:ṭ bi š-šubba:k  
DEF-robe tied.UP. 3SG.M with/to DEF-window  
‘The rope is tied to the window’

37. al-fusta:n malbu:s bilmaglu:b

DEF-dress worn.UP.3SG.M inside out

‘The dress is worn inside out’

38. al-ba:b magfu:l min zu:wa

DEF-door locked.UP.3SG.M from inside

‘The door is locked from inside’

The properties of eventive interpretation and argument realization have been claimed in the literature to indicate the presence of a verbal base in nominal structures (c.f. Grimshaw 1990; van Hout and Roeper 1998; Borer 2003; Alexiadou 2001; Roy & Soare 2013). The discussion of the eventive component in unaccusative participles is provided in 5.5.1 below.

### **5.5 My account for participles in MA**

Due to their hybrid nature and variable functions, participles have caused confusion and scholars have struggled with their part of speech. Traditional Arabic grammarians assume that participles (both active and unaccusative) are derived from verbs (see Sibawayh 1977). This proposal is adopted by Al-Balushi (2011) regarding participles in SA, and by Makkawi (2014) for active participles in MA. In this dissertation, no verbal structure is assumed to appear in participle structures, be it active or unaccusative participles (see §5.5.2 below). As stated earlier, I am adopting a root and pattern approach in my analysis that is cast within the framework of Distributed

Morphology (Halle and Marantz 1993; Harley & Noyer 1999; Embick and Noyer 2007; Embick 2010 and related work) (see Chapters 2 and 3). The following are some basic assumptions on which I build my analysis for participles in MA.

### **5.5.1 Theoretical Assumption: Structural vs. Conceptual Eventivity**

In this section I argue that eventivity in unaccusative participles is not attributed to a verbal functional projection. In doing so, I build on Roy and Soar (2013). In their discussion of event-related nominals, Roy and Soar (2013) distinguish between two types of eventivity: strong/grammatical eventivity in Argument-Supporting nominals (AS-Ns) like *destruction* and weak/conceptual eventivity in simple event nominals (SENs) like *meeting*. This distinction is also characterized by Roy and Soar (ibid) as structural vs. lexical eventivity. Grammatical eventivity refers to cases “in which the presence of the event is structure-related and results from the presence of dedicated verbal functional projections in the structure of the nominal identifiable by aspectual and manner modification” (Roy and Soar 2013: 129)<sup>106</sup>. Conceptual eventivity, on the other hand, is not inherited from a base predicate; rather, it is taken from a lexical-semantic point of view. While grammatical eventivity is contributed by an underlying verbal base, and thus is structurally built-in, conceptual eventivity is not structurally derived from a verbal base but is attributed to the semantics of the predicate.

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<sup>106</sup> The proposal that derived nominals contain verbal structures dates back to the earliest work in generative grammar (c.f. Grimshaw 1990; Hazout 1995; Borer 1997; 2003; van Hout and Roeper 1998; Alexiadou 2001). For a similar proposal, specifically for unaccusative participles (adjectival passive participles), see Kratzer (1494; 2000), Anagnostopoulou (2003), and Alexiadou et al. (2015), among many others.

I adopt Roy and Soar's (2013) distinction between strong/grammatical eventivity and weak/conceptual eventivity to participles in MA; however, with some modification. Roy and Soar (ibid) correlate grammatical eventivity with the obligatory realization of arguments. In doing so, they build on the assumption that both grammatical eventivity and arguments are realized grammatically, and both are inherited from a verbal structure. This is not in line with the proposal adopted in this dissertation which attributes the argument structure to the encyclopedic semantics of the root together with the syntactic functional projection. Thus, the obligatory arguments of participles are not associated with a verbal base but are attributed to the semantics of the root (see table 22 in Chapter 3). Despite the fact that participles obligatorily take arguments in Arabic, I argue, that they lack an important component of grammatical eventivity, the verbal base (the little *v* head (see §5.5.2 below)). Building on Roy and Soar (ibid) that eventivity that is not inherited from a verbal base is a conceptual one, I conclude that the eventivity perceived with participles is a conceptual rather than a grammatical one.

In sum, in accordance with Roy and Soar (2013), I assume that the existence of a dedicated verbal functional projection, which corresponds to little *v* in my account, is a requisite for grammatical eventivity. Thus, strong/grammatical eventivity is confined to verbal structures. However, I do not associate obligatory arguments with a verbal base, nor with grammatical eventivity. Argument structure is part of the meaning of the root and arguments can be realized without a *v*, which is the case in participle structures. Moreover, participles, by virtue of taking arguments, have weak/conceptual eventivity and it is this conceptual eventivity that legitimizes substituting verbs by participles (see the examples in 29, 30, and 31 above).

### 5.5.2 Toward a Syntactic Analysis of unaccusative participles in MA

Participles, like verbs, take arguments; however, unlike verbs, they lack perfective/imperfective morphology and aspectual morphemes. Moreover, they do not indicate tense, nor do they inflect for person. They exhibit agreement with their external argument in number and gender. On the other hand, just like adjectives, participles appear in predicative structures or attributive<sup>107</sup> ones, yet unlike adjectives, unaccusative participles are compatible with modifiers such as Agent-oriented adverbs, instrumental PPs, *from*-phrases, and locative modifiers.

The ambiguous status of participles between adjectival verbs and verbal adjectives is attested cross-linguistically, and it has been attributed to presence of a verbal base upon which the participle structure is built (see Kratzer 1494; 2000; Anagnostopoulou 2003; Alexiadou et. al. 2015, among many others. See also Al-Balushi 2013 for a similar proposal regarding participles in Standard Arabic). However, this proposal is not plausible for the unaccusative participle structures in MA since it suffers from the following problems. First, if participles are derived from verbs, we expect that every verb has a corresponding participle form and every participle has a corresponding verbal form in MA, but this is not actually the case. There are verbs that have no corresponding participle forms, such as *ħizin* ‘grieve’, *firiħ* ‘cheer up’, *za:ħ* ‘get hungry’ and *za:* ‘come’. There are also participles that have no corresponding verbs such as the unaccusative participle *manZu:r* ‘has been looked at’ for which there is no corresponding verbal form *\*naZar* ‘intended: see/look at’. Similarly, the participles *mašħu:f* ‘be obsessed with’, *maznu:n* ‘deranged’ and *maħZu:Z*

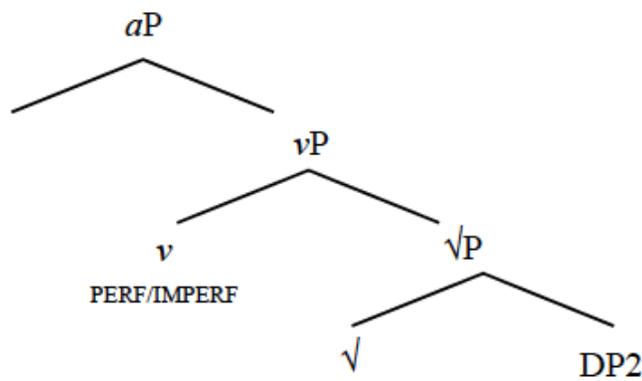
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<sup>107</sup> When used attributively, participles function as noun modifiers (see Mughazi 2001, Mansouri 2016).

‘gifted/lucky’ have no corresponding verbs like \*šaʕaf ‘intended: obsess’ \*zann ‘intended: lose one’s mind’ and \*ħaZ ‘intended: give luck’ in MA.

Secondly, if participles are derived from verbal structures (see 39), there is no way to account for the absence of perfective/imperfective morphology from participles, provided that such morphology is part of the spell out of the verb.

39.



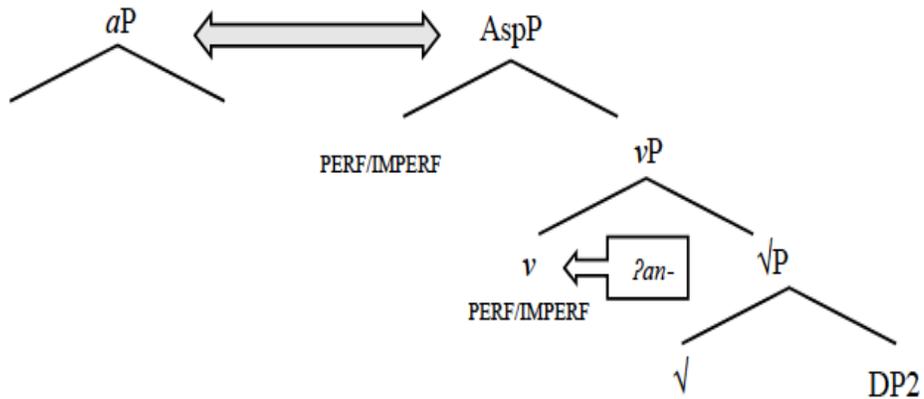
One might argue, contrary to the proposal adopted in this thesis, that the perfective/imperfective morphology is spelled out in a higher projection AspP<sup>108</sup> (see 40), and that in participle structures vP merges with aP instead of AspP. Even if we accept this proposal, we are left with a third problem which is absence of ʔan-. The unaccusative participle structures are agentless structures that correspond to agentless verbal structures. Provided that ʔan- is part of the spell out of v in agentless verbal structures, there is no way to justify the absence of ʔan- from

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<sup>108</sup> I use the label AspP notationally since the perfective/imperfective distinction is referred to as aspect in literature on Arabic but I do not follow this convention (see Chapter 2, §2.3.3).

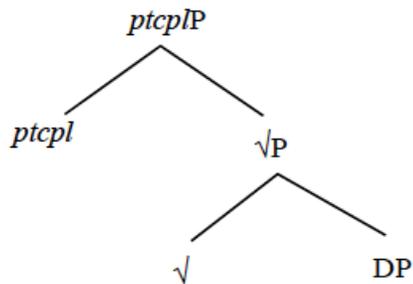
unaccusative participle structures if we assume they are built on verbal substructures via category conversion.

40.



Given the flaws of the category-change approach to unaccusative participles in MA, I assume that participles constitute a distinct category in Arabic. That is, like the categories *v*, *n*, and *a*, I suppose there is a participle functional head, *ptcpl* that categorizes acategorical roots as participles.

41.



Two distinct forms of participles appear in Arabic: the active participle and the unaccusative participle. While active participles, on a par with transitive verbs, take external and internal arguments, the unaccusative participles, on a par with unaccusative verbs, take one argument that is always an undergoer (Patient/Theme) rather than a doer (Agent). According to Mansouri (2016)<sup>109</sup>, the unaccusative participle is a valence reducing construction. It is worth noting here that unlike valence reduction with verbs, which is marked with *ʔan-*, valence reduction is not marked with *ʔan-* on participles but with different templates as discussed in the subsequent parts of this chapter.

As stated earlier (see Chapters 2 and 3) the assumption adopted in this thesis is that both the root type and the syntactic structure play a role in determining the argument structure of the main predicate. That is, the argument structure is built into the root. Category-neutral roots come with general specifications that determine their possible argument structure (see table 22 in Chapter 3), but it is the actual syntactic structure (functional structure) that determines which argument structure surfaces for a given predicate.

In verbal structures, the active (transitive) vs. passive (unaccusative) distinction boils down to a feature [ $\pm$ active] on the verbal head, *v*, (see Chapter 3). This same feature underlies the active vs. unaccusative distinction in participles. A participle head *ptcpl* that is [+active] is spelled out as an active participle Ca:CiC (42a). The functional head *ptcpl* [ $_{+active}$ ] projects a specifier where the external argument is introduced (42b).

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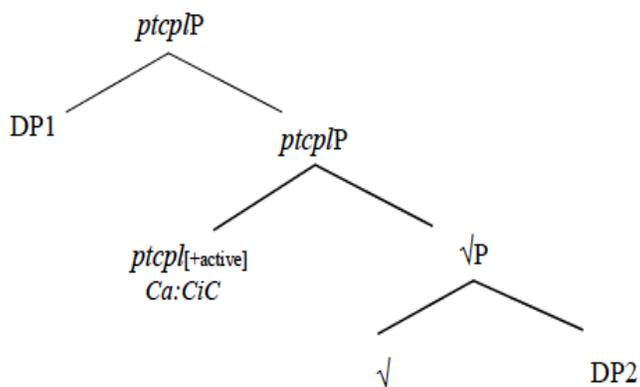
<sup>109</sup> Mansouri (2016) uses the term Passive Participles for Unaccusative Participles.

42. a. al-mudarris ka:tib ad-dars (ʕala s-sabbu:ra)

DEF-teacher write.AP.M DEF-lesson on DEF-board

‘The teacher has written the lesson on the board’

b.



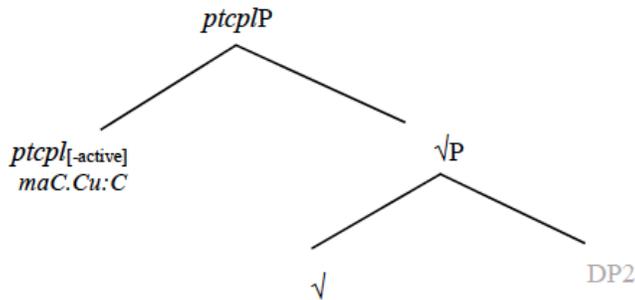
In contrast, a participle head *ptcpl* [-active] is spelled out as an unaccusative participle maCCu:C (43a). Such functional head does not project a specifier and, thus, no external argument is introduced in unaccusative participle structures (43b).

43. a. ad-dars. maktu:b ʕala s-sabbu:ra

DEF-lesson write.UP.3SG.M on DEF-board

‘The lesson is/has been written on the board’

b.



Both participle types exhibit hybrid verbal, nominal, and adjectival properties. Having introduced my account for the syntactic structure of participles, I will be focusing on unaccusative participles<sup>110</sup> for the rest of this chapter. Moreover, I will be focusing on participles as main predicates in verbless sentences<sup>111</sup> and thus, will be concerned with predicative (rather than attributive) participle structures.

The class of unaccusative participles is not uniform but consists, I assume, of three subclasses distinguished on the basis of the root type, a split that is parallel to the one found in the verbal system between passive, anticausative and psych structures. Thus, in accordance with Meltzer-Asscher (2011), I propose a parallelism between verbal and participle systems such that one subclass of unaccusative participles behaves on a par with verbal passives, and another behaves on a par with anticausative structures while a third behaves on a par with psych verbal structures.

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<sup>110</sup> As stated earlier, this class of participles is referred to as Passive Participles in most of the existing literature on participles in Arabic.

<sup>111</sup> See Chapter 2 for a theoretical account for verbless sentences in MA.

This argument is borne out by the pattern of compatibility of different unaccusative participles with agent-oriented adverbials, *from*-phrase, and locative modifiers.

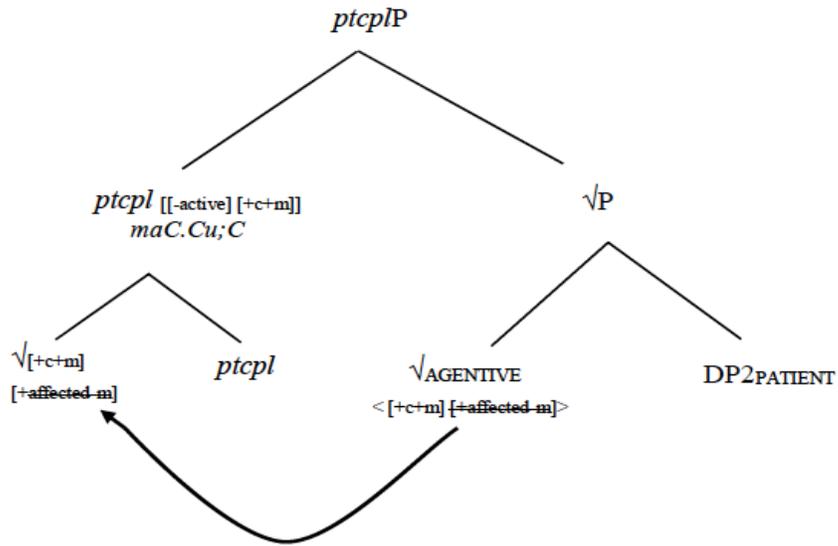
### 5.5.2.1 Passive Participles

These are participles derived with agentive roots, and, thus, show evidence for an implicit agent just like verbal passives. I assume that the Agentive root merges with a complement DP2 and the root phrase is projected. The root phrase, then, merges with a functional head *ptcpl* and *ptcplP* is projected. The uncategorized root adjoins to the functional head *ptcpl* to be categorized as a participle. Since the root head,  $\surd$ , carries the features [+c+m] for the external argument, this feature cluster is borne out by the *ptcpl* head as a result of head adjunction. Thus, the head of the adjunction structure is specified as [+c+m]<sup>112</sup>.

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<sup>112</sup> It is worth noting here that unlike the functional head, *v*, the functional head *ptcpl* is not specified with any [m] or [c] features but copies the features on the root upon head adjunction between  $\surd$  and *ptcpl*.

44.

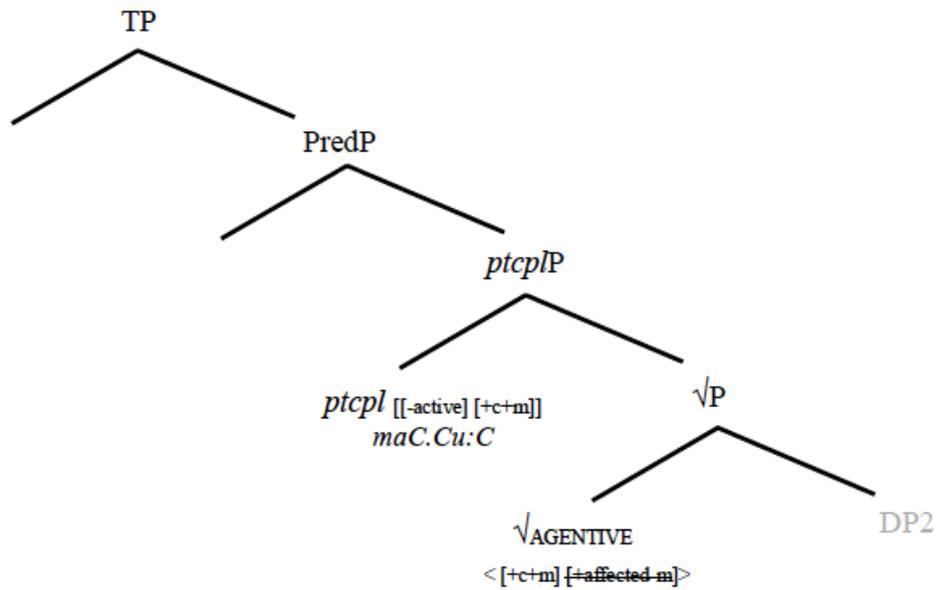


Building on Baker's (2015) dependent case theory (see Chapter 2), I assume that no dependent case is assigned to DP2 in its base position, which triggers movement to a higher position, [Spec, TP]. Such movement is necessary to satisfy the case filter and the EPP in [Spec, TP]. DP2 could only get dependent accusative case from the c-commanding DP1 in [Spec, *ptcpIP*],<sup>113</sup> and given that the *ptcpI* head is [-active], it does not project a specifier, and, thus no external argument can be introduced in this participle structure.

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<sup>113</sup> I assume that *ptcpIP*, just like *vP*, is a soft phase, a phase whose DP constituent is accessible by higher c-commanding DPs for the purpose of case assignment (See Chapter 2).

45.



Passive participles exhibit the exact pattern of compatibility with agent-oriented and causer-oriented modifiers as the corresponding verbal structures as shown below (see Chapter 3 for a discussion of the same diagnostics with verbal structures).

46. al-ħa:ris      maqtu:l      biwaħši:ya      (Agentive adverb)

DEF-guard      killed. UP.3SG.M      fiercely

‘the guard was/is fiercely killed’

47. al-ḥa:ris magtu:l bi-ṣikki:n (Instrumental PP)

DEF-guard killed. UP.3SG.M with-knife

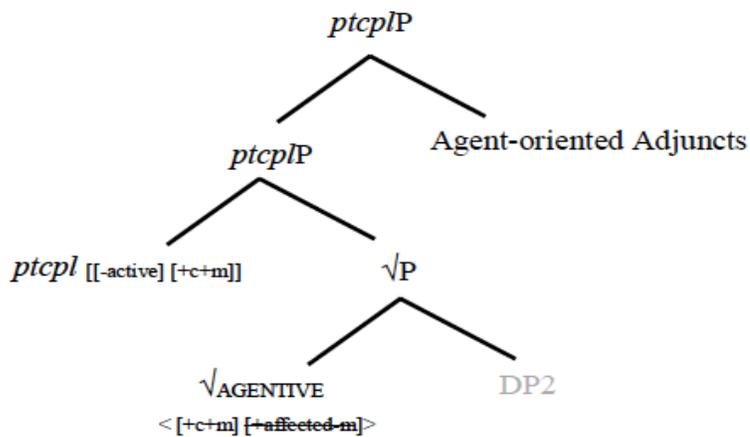
‘the guard was/is killed with a knife

48. \*al-ḥa:ris magtu:l min al-ḥara:mi (From phrase)

DEF-guard killed. UP.3SG.M from DEF-thief

‘the guard was/is killed from the thief/ from the disease)’

49.



This pattern of compatibility with absence of little  $\nu$  (the eventivity component) provides support for the proposal that the target modifiers are oriented toward particular features as proposed in Chapter 3.



51. al-ba:b maksu:r bišara:sa (Agentive Adverb)

DEF-door broken. UP.3SG.M furiously

‘the door was/is furiously broken’

52. al-ba:b maksu:r bi-šikki:n (Instrumental PP)

DEF-door broken. UP.3SG.M with-knife

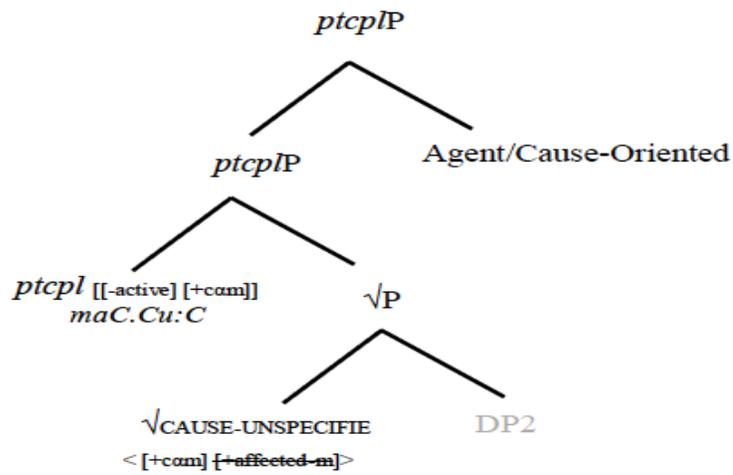
‘the door was/is broken with a knife’

53. al-ba:b maksu:r min al-hawa (*from-Phrase*)

DEF-door broken. UP.3SG.M from DEF-wind

‘the door was/is broken from the wind’

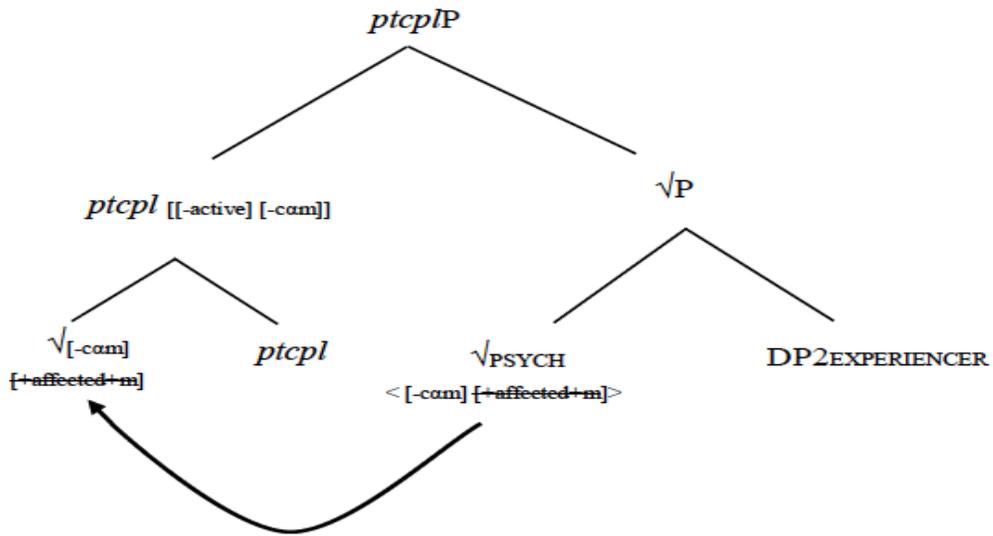
54.



### 5.5.2.3 Psych Participles

I am referring to participles derived with psych roots as psych participles. These structures are derived when a psych root [-com] merges with a little *ptcpl* head, *maC.Cu:C*, to be categorized as a participle. Adjunction of the root with little *ptcpl* results in a participle head bearing the features [-com].

55.



Despite bearing [ $\alpha$ ] for the [m] feature, this functional head is compatible with *from*-phrase only and is infelicitous with Agentive adverbs. Recall from Chapter 3 that I postulate that such incompatibility is the result of overt arguments taking precedence over implicit arguments. Both the implicit Actor argument and the internal Experiencer argument of the psych participle structure in (56) are specified as [+m]. The adverb *intentionally*, which is sensitive to this feature, associates with the overt Experiencer argument, ‘the boy’, rather than the covert Actor argument, ‘the man’, which results in a different interpretation than the intended one.

56. \*al-walad maghu:r bilʕinya (Agentive Adverb)

DEF-boy maddened/upset. UP.3SG.M intentionally

‘the boy is maddened/upset. intentionally’

57. \*al-walad maghu:r bi-kilma (Instrumental PP)

DEF-boy maddened/upset. UP.3SG.M with a word

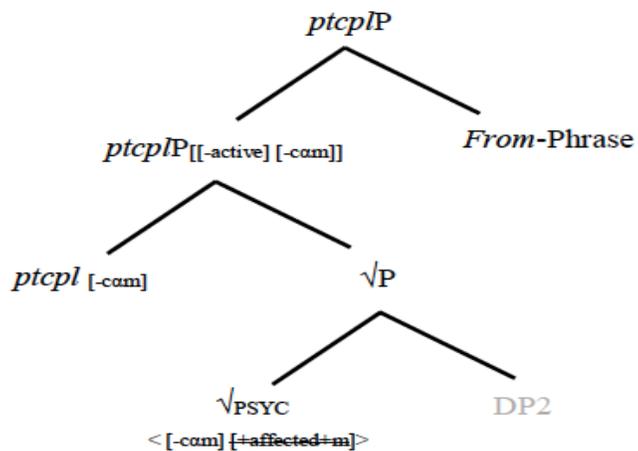
‘the boy is maddened with a word’

58. al-walad maghu:r min ar-riʕza:l/ al-mawqif (From-Phrase)

DEF-boy maddened/upset. UP. 3SG.M from DEF-man/ DEF-situation

‘the boy is maddened from the man/ from the situation’

59.



The three participle structures discussed so far, namely, passive participles, decausative participles, and psych participles are parallel to the passive, anticausative and psych verbal structures, respectively. Unlike little *v* that is eventive, *ptcpl* is not, and the participle structure exhibits a conceptual rather than a grammatical eventivity.

#### 5.5.2.4 Target State vs. Resultant State Distinction in MA

Kratzer (2000) argues for a semantic division of adjectival participles (unaccusative participles in the present study) into target state participles and resultant state participles. The former describes states that are in principle reversible, whereas the latter describe states that hold forever after the event that brings them about. The two subclasses are distinguished on the basis of compatibility with *still*. Target state participles can be modified with *still* while resultant state participles do not tolerate such modification.

Kratzer's (2000) classification of adjectival passives into target state vs. resultant state participles does not appear to play a role in distinguishing the sub-classes identified above for unaccusative participles in MA. While decausative and psych participles are compatible with *lissa* 'still' (see 60 and 61), the same modifier cross-cuts the sub-class of passive participles (see 62, 63, and 64)

60. al-ba:b lissa maksu:r (Decausative Participle)

DEF-door still broken.UP.3SG.M

'the door is still broken'

61. al-walad lissa mabṣu:ṭ (Psych Participle)

DEF-boy still satisfied/happy.UP.3SG.M

‘the boy is still happy’

62. \*al-walad lissa magtu:l (Passive Participle)

DEF-boy still killed.UP.3SG.M

‘the boy is still killed’

The following examples further shows that the target diagnostic gives opposing results for the passive participles.

63. ar-rizṣa:l lissa maszu:n

DEF-man still imprisoned.UP.3SGM

‘the man is still imprisoned’

64. ad-dahab lissa masru:g

DEF-gold still stolen.UP.3SGM

‘the gold is still stolen’

*Lissa* ‘still’ is grammatical with *maszu:n* ‘imprisoned’ and *masru:g* ‘stolen’ but not with *magtu:l* ‘killed’. Whereas the three verbs are agentive, *maszu:n* ‘imprisoned’ and *masru:g* ‘stolen’ are reversible (since the imprisoned can be freed and stolen items can be returned) but *magtu:l* ‘killed’ is irreversible, for once a person is killed, he cannot be brought back to life. *lissa* ‘still’ is grammatical with the verb *gatal* ‘killed’ when used idiomatically to indicate reversible states as shown in the following example.

65. at-tafa:ʕul      lissa      magtu:l  
 DEF-interaction   still      killed.UP.3SG.M  
 ‘the communication is killed/dead’

Moreover, the semantics of the external argument affects compatibility of the agentive root with *lissa* ‘still’ as exemplified below:

66. ar-riʒza:l      lissa      maxnu:g              min      al-yuba:r  
 DEF-man   still      choked.UP.3SG.M      from      DEF-dust  
 ‘the man is still choked from the dust’

67. \* ar-ri33a:l lissa maxnu:g bi-ħabil  
 DEF-man still choked.UP.3SG.M with-robe  
 ‘the man is still choked with a rope’

In (66) the external argument is a Causer and the state expressed by the participle can be reversed once the dust stops while in (67) the external argument is understood to be an Agent (as indicated by the instrumental PP) and the state indicated is non-reversible.

To sum, *still* as a diagnostic is compatible with decausative and psych participles, but it cross-cuts the passive participles as it is compatible with *masru:g* ‘stolen’, *maszu:n* ‘imprisoned’ and *mahzu:z* ‘reserved’ but not with *magtu:l* ‘killed’ and *maxnu:g* ‘choked’ (except in idiomatic usage). Thus, the target vs. resultant classification of participles does not hold for MA.

#### 5.5.2.5 Modification by *marra* ‘very’

The modifier *marra* ‘very’ normally combines with adjectives in MA (see 68), and it cannot be used with simple, inflected, verbs (see 69). As such degree expressions are generally associated with adjectives, several linguists assume that gradability is a property specific to adjectives (see Jakendoff 1977). However, others argue that gradability is found across categories, which is the case in MA (c.f. Bresnan 1973; Doetjies 1997; 2008; Neelman et al. 2004 for the proposal that degree modifiers appear across categories).

68. a. al-fusta:n (marra) ħilu (marra)

DEF-dress (very) nice (very)

‘the dress is very nice’

b. al-kita:b (marra) ʒadi:d (marra)

DEF-book (very) new (very)

‘the book is very new’

69. \*katabt ad-dars marra

write. PERF.1SG DEF-lesson very

‘I very wrote the lesson’

*Marra* ‘very’ appears with participles<sup>114</sup>, yet it is licit only with decausative and psych participles while it is unsanctioned with passive participles (see the following examples)<sup>115</sup>. Thus, the

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<sup>114</sup> See Kennedy & McNally (1999), Doetjes (2008), Abeillé & Godard (2003) for the proposal that participles can be modified by *very*.

<sup>115</sup> As stated earlier *marra* ‘very’ may precede or follow the participle but I will be presenting them in the latter position in the tree diagrams.

distributional pattern of *marra* ‘very’ is not as straightforward with participles as it is with adjectives.

70. a. \*ar-rizza:l magtu:l marra (Passive Participle)

DEF-man killed.UP. 3SG.M very

‘the man is very killed’

b. al-ba:b maksu:r marra (Decausative Participle)

DEF-door broken.UP.3SG.M very

‘the door is very broken’

c. al-walad maghu:r marra (Psych Participle)

DEF-boy maddened/upset.UP.3SG.M very

‘the boy is very upset’

Interestingly, when an agentive reading is enforced/motivated for the decausative participle *maksu:r* ‘broken’(through modification by intentionally)<sup>116</sup>, *marra* ‘very’ is no longer licit with it as shown below.

71. \*al-ba:b    maksu:r            marra    bilʕinya  
           DEF-door broken.UP.3SG.M    very    intentionally  
           ‘the door is very broken intentionally’

In contrast, when a decausative reading is enforced for the same structure by adjoining Causer-oriented modifiers, modification by *marra* ‘very’ is allowed.

72. al-ba:b    maksu:r            marra    min    al-hawa  
           DEF-door broken.UP.3SG.M    very    from    DEF-door  
           ‘the door is very broken from the wind’

Given that degree adverbs do not behave the same in different languages (Doetjes 2008), I assume that modification by *marra* ‘very’ is sensitive to the semantics of the participle in MA. The distributional pattern of *marra* ‘very’ with the different sub-classes of participles indicates that if

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<sup>116</sup> The assumption that agentive reading is enforced by modifiers like *intentionally* is in line with Bruening & Tran’s (2015) generalization that ‘deliberately’-type adverbs can add agentivity to structures that lack it.

the participle structure bears the feature [+m], contributed, for example, by the agentive modifier, the participle cannot be modified by *marra* ‘very’. If the same structure bears the feature [-m], however, the resulting decausative participle is felicitous with *marra* ‘very’. For now, I leave it as a generalization that *marra* ‘very’ is not compatible with participles that have implicit Agents, and it remains to be explained whether compatibility of *marra* ‘very’ with different predicates is determined by the argument structure or has to do with gradability.

## 5.6. Conclusion

This chapter discusses the class of participles, specifically unaccusative participles, in MA. After highlighting the nominal, verbal, and adjectival properties of participles, I have distinguished two groups of participles in MA, namely, lexicalized participles and unaccusative participles. The former class of participles functions referentially (just as pure nouns) while the latter shows properties of verbal and adjectival structures. As I do not assume the existence of a verbal base in participles, I argue that the eventivity expressed by participles is a conceptual rather than a grammatical one. In my analysis of the unaccusative participles, I assume that participles are independent structures that are derived when a categoryless root merges with a functional head *ptcpl*. On a par with little *v*, the participle head *ptcpl* bears a voice feature [ $\pm$ active]. While *ptcpl*<sub>[+active]</sub> is spelled out as active participle, *ptcpl*<sub>[-active]</sub> is spelled out as unaccusative participle. Just like other verbless sentences in Arabic, unaccusative participle structures include PredP. Such participles, I assume, consist of three different subclasses, namely, passive, anticausative, and psych participles, that behave on a par with passive, anticausative and psych verbal structures regarding compatibility with different Agent-oriented and Causer-oriented modifiers. Results of

the analysis of unaccusative participles provide support for the proposal presented in Chapter 3 of a correlation of different modifiers with the semantic features borne by the functional head.

## Chapter 6

### Summary, Conclusion and Further research

#### 6.1 Summary and Conclusion

Transitivity alternations and their morphological marking constitute a considerable body of research cross-linguistically (cf. Levin and Rappaport Hovav 1995; Embick 2004; Alexiadou et al. 2006; 2014; 2015); however, they remain relatively unexplored for Arabic. Thus, this dissertation investigates morphologically-marked transitivity alternations in Arabic. It focuses on morphologically-marked unaccusative structures and their syntactic derivations. I argue that transitivity alternations are both semantically determined by the encyclopedic meaning of the roots and syntactically encoded by the features of the functional heads. I assume that both are necessary to determine the argument structure of a given predicate.

Three main morphologically-marked intransitive structures with transitive alternants are investigated in this study: (1) unaccusative *ʔan*-structures, that encode passive, anticausative and (middle) psych structures, (2) unergative *ʔat*-structures that encode reflexives and reciprocals, and (3) unaccusative participle structures. While the focus in this dissertation is on morphologically-marked unaccusative structures that lack syntactically-projected external arguments, a discussion of unergative *ʔat*- structures is necessary since they seem to bear the same morphology as *ʔan*-structures and, hence, can be easily mistaken for unaccusative structures. Accordingly, a distinction between the two sets of structures is indispensable.

Given that Arabic is a nonconcatenative language with root-pattern morphology, the approach taken in this dissertation is couched within the general theoretical framework of Distributed Morphology (DM), a theory of the syntax/morphology interface where word formation is syntactic

in nature but the spell out of syntactic features is subject to different operations in the phonological branch of the grammar (Halle and Marantz 1993; Harley & Noyer 1999; Embick and Noyer 2006; Embick 2010 and related work). In line with DM I base my account for transitivity alternations on two basic assumptions:

- The existence of a core meaning instantiated as roots of several classes (Embick 2004a; Alexiadou 2010; Alexiadou et al. 2006; Alexiadou et al 2015 Alexiadou)
- The existence of a functional projection introducing external arguments, namely  $vP$  in verbal structures and  $ptcplP$  in participle structures. The heads of these projections, Little  $v$  and  $ptcpl$ , attract the root and give it its grammatical and semantic specifications. Moreover, these functional heads bear the feature  $[\pm active]$ . While the non-active morpheme  $\lambda an-$  in passive, anticausative and psych structures spells out  $v_{[-active]}$ ,  $maCCu:C$  in participle structures spells out  $ptcpl_{[-active]}$ . Thus,  $v_{[\pm active]}$  underlies the alternation between transitive and unaccusative constructions.

These components of the roots and the functional heads  $v$  and  $ptcpl$  determine, I assume, the argument structure in a given syntactic derivation. I assume the existence of different root types in MA (building on Alexiadou 2010; Alexiadou et al. 2006):

- $\sqrt{\text{agentive}} (g.t.l \text{ 'kill'})$ :<sup>117</sup> the bringing about of the event requires the presence of an agent

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<sup>117</sup> *kill* is externally-caused rather than agentive for Alexiadou. This could be explained in light of cross-linguistic variation since *kill* may take an external cause as its external argument in languages like English but always requires an Agent in MA.

- $\sqrt{\text{cause}}$  unspecified (*k.s.r* ‘break’): no specification for internal vs. external cause
- $\sqrt{\text{psych}}$  (*g.h.r* ‘upset’): the bringing about of the state requires the presence of a stimulus

Building on Reinhart (2000) and Haiden’s (2005) Feature Theory of theta structure, I specify each root type with a feature bundle that consists of [m] for mental state and [c] for cause change as shown in Table (34). [ $\alpha$ ] indicates unspecified value for a given feature.

**Table 34: Semantic specifications for the external argument of different roots**

<b>Root</b>	<b>c</b>	<b>m</b>
Agentive	+	+
Cause-unspecified	+	$\alpha$
Psych	–	$\alpha$

Regarding the functional heads, I postulate different flavors of little  $\nu$  differentiated on the basis of feature bundles of the same features [m] and [c]. The different flavors of little  $\nu$  are specified as the follow table:

**Table 35: Little  $\nu$  flavors and the corresponding feature bundles**

<b>Functional <math>\nu</math></b>	<b>Formal Features</b>
$\nu_{\text{AGENT}}$	[+c+m]
$\nu_{\text{CAUSE}}$	[+c-m]
$\nu_{\text{DO}}$	[-c+m]
$\nu_{\text{STIMULUS}}$	[-c-m]

Roots must adjoin to the functional head  $\nu$  to be categorized as verbs. Provided that both heads,  $\sqrt{\quad}$  and  $\nu$ , carry semantic specifications (formal features) for the external argument, adjunction of the two heads proceeds on the basis of compatibility considerations between formal features on the roots and little  $\nu$ <sup>118</sup>. That is, the theta-features on the root must be compatible with the theta-features on the functional head for the derivation to converge, otherwise head adjunction is blocked and the derivation crashes. I formalize this compatibility condition as a constraint:

28. The compatibility constraint

The argument structure features of a verbal head adjunction structure have to be compatible (non-contrasting).

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<sup>118</sup> While the features on  $\nu$  are constructional, the features on  $\sqrt{\quad}$  has to do with the meaning (the semantics) of the root.

The compatibility constraint is satisfied, and the derivation converges if both heads of the adjunction structure,  $\sqrt{\phantom{x}}$  and  $\nu$ , have the same values for the external argument features. These same values are borne by the head of the adjunction structure,  $\nu$ . The derivation also converges if the adjoined head,  $\sqrt{\phantom{x}}$ , has unspecified value,  $[\alpha]$ , for a given feature. In this case,  $[\alpha]$  on the root is specified according to the value of the corresponding feature in the functional head and this same value is borne by the head of the adjunction structure. The compatibility constraint is violated and the derivation crashes if the two heads of the adjunction structure have contrasting values for a given feature.

**Table 36: Compatibility conditions between  $\sqrt{\phantom{x}}$  and  $\nu$  in head adjunction structures**

The adjoined heads		Status of the compatibility constraint	Features on $\nu$ resulting from head adjunction between $\nu$ and $\sqrt{\phantom{x}}$
Formal features on $\sqrt{\phantom{x}}$	Formal features on $\nu$		
[+c+m]	[+c+m]	Satisfied (the derivation converges)	[+c+m]
[+c $\alpha$ m]	[+c+m]		[+c+m]
	[+c-m]		[+c-m]
[+c+m]	[+c-m]	Violated (the derivation crashes)	NA
	[-c+m]		
	[-c-m]		

Given the compatibility conditions in table (36), agentive roots must adjoin to a functional head with the matching feature cluster [+c+m], namely  $\nu_{\text{AGENT}}$ , while cause-unspecified roots can adjoin to functional heads bearing the features [+c+m] or [+c-m] and thus are compatible with  $\nu_{\text{AGENT}}$  and  $\nu_{\text{CAUSE}}$ . Psych roots are specified with the features [-c+m] and thus can adjoin to functional heads bearing the feature cluster [-c+m],  $\nu_{\text{DO}}$ , or [-c-m],  $\nu_{\text{STIMULUS}}$ .

*ʔan*-structures are discussed in Chapter 3. Comparing these structures with their transitive alternants reveals that the sole argument in *ʔan*-structures corresponds to the internal argument of their transitive alternants, which lead to the conclusion that *ʔan*-structures are unaccusative structures. I show that *ʔan*-structures encode passive, anticausative and psych structures in MA. This conclusion is based on the pattern of compatibility of different *ʔan*-structures with *by itself*, *from*-phrases, Agent-oriented adverbs, and instrumental PPs. Compatibility with *by itself* and *from*-phrases are attested diagnostics for anticausative constructions (Alexiadou 2010; Alexiadou et al. 2006; Alexiadou & Doron 2012). Agent-oriented adjuncts and instrumental PPs are licit only with passive constructions as such adjuncts modify an implicit Agent (Alexiadou & Schäfer 2006; Alexiadou 2014b; Alexiadou et al 2006; 2015). Psych structures exhibit a pattern of compatibility with the four diagnostics that is distinct from both the passive and the anticausative constructions, thus I classify them as (middle) psych structures.

I attribute the syncretism between passive, anticausative, and psych *ʔan*-structures to a common structural property, namely, absence of an external argument. That is, the non-active morphology, *ʔan*-, is sensitive to the absence of a syntactically projected external argument (this is in line with the premises postulated by Embick 1998; 2004a; Alexiadou 2010). The transitivity

alternations between active/passive, causative/anticausative, and OE/SE<sup>119</sup> psych structures boils down to a feature [ $\pm$ active] on the functional head  $v$ .  $v_{[+active]}$  projects a specifier in which an external argument is introduced and thus derives transitive structures whereas  $v_{[-active]}$  is a specifier-less functional head where no external argument can be introduced. The functional head  $v_{[-active]}$  is spelled out with the non-active morpheme  $\lambda an-$ .

In Chapter 4 I provide an analysis of reflexive and reciprocal constructions. These intransitive structures are morphologically-marked with  $\lambda at-$  and alternate with transitive counterparts. Since  $\lambda an-$  exhibits free variation between  $\lambda an-/ \lambda at-$ , reflexive and reciprocal constructions could be mistaken for unaccusative structures; thus, a distinction between the two constructions is indispensable. While  $\lambda an-$  structures are unaccusative constructions, I show that reflexives and reciprocals are unergative constructions with syntactically merged external arguments. In such structures the two arguments on the root bundle together to be introduced into one and the same position in [Spec,  $vP$ ]. Bundling in reflexives and reciprocals is constrained by the features [+reflex] and [+recip] on inherently-reflexive and inherently-reciprocal roots, respectively. This, once again, shows the interplay between the meaning of the root and the syntactic structure. I conclude that whereas both  $\lambda an-$  structures and  $\lambda at-$  structures, are syntactically intransitive,  $\lambda an-$  is associated with the specifier-less head  $v_{[-active]}$ , while  $\lambda at-$  signifies bundling of the semantic features on the root to be introduced to one and the same position, [Spec,  $vP$ ]. Accordingly,  $\lambda an-$  marks structures

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<sup>119</sup> OE stands for object experiencer psych verbs while SE stands for subject experiencer psych verbs. The two types of psych verbs are discussed in detail in Chapter 3.

that lack syntactically projected external arguments whereas *ʔat-* marks structures that lack syntactically projected internal arguments.

The third construction investigated in this dissertation is the unaccusative participle which I discuss in Chapter 5. Cross-linguistically, participles exhibit hybrid nominal and verbal properties. I show that unaccusative participles in MA have verbal and adjectival properties. Purely nominal properties are specific to a small group of lexicalized participles in MA. I argue that unaccusative participles encompass several structures that have not yet been identified in the existing literature on participles in Arabic. On a par with *ʔan-* structures, unaccusative participles exhibit a pattern of syncretism between the subclasses of passive, decausative and psych participles. These subclasses share the pattern *maCCu:C* but differ in their syntactic properties as evidenced by their compatibility with several diagnostics, namely, *from*-phrases, instrumental PPs, and Agent-oriented adverbs. In my account for the syntactic derivation of unaccusative participles, I assume that participles constitute a category on their own as do nouns, verbs, and adjectives. Participle structures are derived when an acategorical root merges with a participle functional head *ptcpl* and is categorized as a participle. Just like the verbal functional head *v*, the participle functional head has a voice feature [ $\pm$ active]. [+active] *ptcpl* is spelled out as an active participle *Ca:CaC* whereas [-active] *ptcpl* is spelled out as an unaccusative participle *CaCCu:C*. Thus, the active/unaccusative distinction for participles boils down to a feature [ $\pm$ active] which underlies transitivity alternations in both verbal and participle structures in MA.

To conclude, given that no studies have yet investigated transitivity alternations and the relevant morphological marking in Arabic and that no studies have explored the syncretism between morphologically marked intransitive alternants that exhibit different syntactic behavior, my purpose has been to do both. Results of my analysis provide support for the proposals of

different flavors of little *v* (Arad 1998; 2002; Alexiadou et al. 2006; McGinnis 2000; Van Gelderen 2014) and different root types (Embick 2004a; Alexiadou 2010; Alexiadou et al. 2006; Alexiadou et al. 2015). I conclude that transitivity alternations in MA are both semantically determined by features on the roots and syntactically encoded by features of the functional heads, both of which determine the argument structure of a given predicate. Most importantly, it is the feature [ $\pm$ active] on the functional head that underlies transitivity alternations in both verbal and participle structures in MA.

## **6.2 Further research**

Given the rich morphology of Arabic, many areas of the morphology-syntax interface remain to be investigated. I identify two such areas in the following two sections.

### **6.2.1 The apophonic/internal passive vs. the morphological/ *ʔan-* passive in Arabic**

In this thesis, I have presented an analysis of the morphological passive *ʔan-* in MA. The apophonic passive of SA, where the consonantal root is mapped to the apophonic template, does not exist in MA. The question that arises here is how the syntactic structure of the morphological passive is different from the syntactic structure of the apophonic passive. In what follows, I will discuss the formation of the apophonic passive. I will then highlight areas of contrast between *ʔan-* passive

and the apophonic passive which suggest two distinct syntactic structures for the apophonic/internal<sup>120</sup> vs. morphological/ *ʔan*- passives in Arabic.

The perfective apophonic construction or internal passive is formed by mapping the tri-consonantal root to the template *CuCiCa* as exemplified in (1):

1. a. qatal                    r-raʒul-u            l-ħa:ris-a            (Active)  
kill.PERF.3SG.M    DEF-man-NOM    DEF-guard-ACC  
  
'The man killed the guard'

b. qutila                    l-ħa:ris-u            (Passive)  
  
was killed.3SG.M    DEF-guard-NOM  
  
'The guard was killed'

The imperfective apophonic form, on the other hand, is formed by mapping the consonantal radicals to the template *yuC.CaCu*:

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<sup>120</sup> The apophonic passive is also known as the internal passive since it is encoded by changing the vocalic melody of a given predicate from *CaCaC* to *CuCiC*, a change that is considered internal.

2. a. yaktubu                    l-walad-u            d-dars-a            (Active)

write.IMPERF.3SG.M    DEF-boy-NOM    DEF-lesson-ACC

'The boy writes/is writing the lesson'

b. yuktabu                    d-dars-u            (Passive)

is written. 3SG.M    DEF-lesson-NOM

'The lesson is (being) written'

Unlike the *ʔan*-passive that is never formed from unergative and non-alternating unaccusative structures, the apophonic passive is licit with such structures.

3. a. na:m                    aṭ-ṭifl-u            fi    s-sari:r            (Unergative)

sleep. PERF.3SG.M    DEF-child-NOM    in    DEF-bed

'the child slept in the bed'

b. ni:m<sup>121</sup> fi s-sari:r

slept in DEF-bed

'slept in the bed'

4. a. waṣal l-walad-u ?ila s-suuq (Unaccusative)

arrive.PERF.3SG.M DEF-boy- NOM to DEF-market

'The boy went to the market'

b. woṣila ?ila s-suuq

gone to DEF-market

'The market was/has been arrived to'

While the apophonic construction can be based on an intransitive structure, this is only possible if there is also an adjunct. When the only argument of the main (intransitive) verb is suppressed, the adjunct disambiguates the meaning of the derived structure and/or provides indication about the

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<sup>121</sup> Since the verb *na:m* 'sleep' is a hollow verb, a verb in which the second root consonant is semi-vowel, the apophonic form is not CuCiC but an exceptional form (see Ryding 2005 for a detailed discussion of hollow verbs in Arabic).

suppressed argument (Mezoz 2007). Thus, the apophonic structure cannot be derived from (5a) or (6a) as is evident from the ungrammaticality of (5b) and (6b).

5. a.   waṣal                    l-walad-u  
  
          garrive.PERF.3SG.M   DEF-boy-NOM  
  
          'the boy arrived'

b.   \* woṣil  
  
      arrived

6. a.   na:m                    aṭ-ṭifl                    (Unergative)  
  
          sleep. PERF.3SG.M   DEF-child  
  
          'the child slept'

b.   \*ni:m  
  
      slept

Passive voice structures in Arabic are known to be incompatible with agentive *by*-phrases as the passive construction is generally used to suppress the external argument and avoid any mention of it (Suleiman 1998; Budarṣ et al. 2004; Muhamad 2007; Mahdi 2011, among many others).

Consequently, agentive *by*-phrases cannot be used as a diagnostic for passive structures in Arabic. Here I use the Agent-oriented adverb *ʕunwah* ‘intentionally’ to indicate existence of the implicit Agent in the following structure with the psych verb *qahar* ‘upset’. Unlike the *ʔan*-passive, apophonic constructions derived with psych roots are compatible with agent-oriented adverbs like *intentionally* as shown below.

7. quhira            r-razul-u            ʕunwah  
       maddened      DEF-man-NOM    intentionally  
       ‘the man was intentionally upset/maddened’

Such differences lead to the question of what the structural difference is between the apophonic passive and the morphological passive encoded with *ʔan*- In my analysis in this thesis, I assume that only a *v* that selects a root with two arguments can bear the feature [ $\pm$ active] in MA, so the *v* in unergative and unaccusative structures is infelicitous with [ $\pm$ active], and hence does not encode transitivity alternations. In SA, however, does the compatibility of the unergative and unaccusative structures with the apophonic passive imply that [ $\pm$ active] appears on *v* selecting monadic roots? If so, how are transitivity alternations in SA different from alternations in MA (among other modern vernaculars of Arabic)? And is the apophonic structure an Agentless structure? All these questions await further research.

## 6.2.2 Gemination as Transitivity Morphology

Another relevant area for further research is transitivity by geminating the medial consonant of the root, as this is also at the interface of morphology and syntax. Gemination of the medial consonant of the root is a well-known transitivity process in Arabic. It applies to intransitive monadic roots, i.e. roots that take one argument (see Al-Koofi 1941; Hasan 1973; Al-Anbari 1997). This process is possible with unergative and unaccusative structures that are incompatible with *ʔan-*, however, after being transitivized, these structures can have morphologically-marked alternants with *ʔan-* and can form unaccusative participles as shown in the following examples:

8. a.    na:m                      ʔ-ʔifil                                      (Unergative)  
          sleep. PERF.3SG.M    DEF-child  
          ‘the child slept’
- b.    (\*ʔat-)na:m              aʔ-ʔifil                                      (Unergative)  
          sleep. PERF.3SG.M    DEF-child  
          ‘the child slept’
- c.    nay.yam                      ar-riʔza:l aʔ-ʔifil                              (Transitive Structure)  
          sleep. CAUS.PERF.3SG.M    DEF-man    DEF-child  
          ‘the man makes the child sleep’

d.   ʔat-naw.wam     aṭ-ṭifil                   (Unaccusative Verbal Structure)

sleep.PERF.3SG.M   DEF-child-NOM

‘the child was caused to sleep’

e.   al-walad   minaw.wam.                   (Unaccusative Participle Structure)

DEF-child   slept.PASSP.3SG.M

‘the child was caused to sleep’

9. a.   al-bari:d     wiṣil                   (Unaccusative)

DEF-mail   arrive. PERF.3SG.M

‘the mail arrived’

b.   (\*ʔat-)al-bari:d   wiṣil                   (Unaccusative)

DEF-mail         arrive. PERF.3SG.M

‘the mail arrived’



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