Gradience in Split Intransitivity and Lexical Aspect in Modern Standard Arabic

by

Mastourah Alazmi

A Dissertation Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

Approved April 2021 by the
Graduate Supervisory Committee:

Elly van Gelderen, Chair
Lewis Gebhardt
Tyler Peterson

ARIZONA STATE UNIVERSITY

May 2021

ABSTRACT

The Split Intransitivity Hierarchy (SIH) proposed by Sorace (2000) is an aspectually gradient classification of unaccusative and unergative verbs. This hierarchy has been attested in many Western European languages. However, little is known about typologically different languages. This dissertation provides an account of the gradience in aspectual and thematic specification of intransitives in Modern Standard Arabic (MSA). It seeks to confirm whether the SIH exists in Arabic and whether it applies to its syntactic characteristics of split intransitivity.

Following Sorace's classifications, Arabic intransitives are divided into seven categories: change of location, change of state, continuation of a pre-existing state, existence of state, uncontrolled process, controlled motional process, and controlled nonmotional process. To test the behavior of these verb classes, the researcher applies diagnostics of split intransitivity and carries out tests of telicity, stativity, and durativity. In addition, the researcher examines the contribution of the outer/grammatical aspect to the inner/lexical aspectual specification of the verb in MSA. Native speakers' judgment is utilized to distinguish grammatical examples from ungrammatical ones.

The results confirm the existence of the SIH in Arabic. Arabic intransitives are subject to systematic variation in their lexical aspect as they show different degrees of telicity and durativity. Specifically, verbs of change of location show core unaccusative/telic behavior, while verbs of change of state oscillate in their telicity. Verbs in the middle of the hierarchy are the most indeterminate about their aspectual and thematic realization. The findings also reveal that Arabic verbs of continuation are durative, while verbs of existence are mostly stative. Moreover, durative classes in

Arabic show variable degrees of durativity. In particular, the class of uncontrolled process displays the lowest degree of durativity. Verbs of controlled motional process are more unergative/durative than verbs of uncontrolled process and less categorical in their behavior than verbs of controlled nonmotional process. Finally, verbs that denote controlled nonmotional processes are core unergative/durative and the most unambiguous in their behavior. Overall, Arabic intransitives keep their original aspectual classification even when changing the outer aspect from perfective to imperfective.

ACKNOWLEDGMENTS

I am deeply indebted to my committee members for their valuable guidance and assistance throughout the writing of this dissertation. First, I would like to express my deepest appreciation to my committee chair, Dr. Elly van Gelderen for the continuous support of my Ph.D. study at ASU. The completion of this research would not have been possible without her suggestions and feedback. Dr. van Gelderen was always willing and enthusiastic to assist in any way she could throughout the dissertation process. As my professor and advisor, she has taught me more than I could ever give her credit for. She has shown me, by her example, what a great linguist (and person) should be. I also want to thank Dr. Lewis Gebhardt and Dr. Tyler Peterson for agreeing to serve on my committee. They have been very supportive and generous with their expertise and feedback.

In addition, special thanks go to all the syntax group and Arabic syntax group members at ASU for their suggestions and help. I specially thank Jaber Harthi for his remarkable contribution to my work.

Finally, I would like to express my very profound gratitude to my family for providing me with unwavering support and continuous encouragement throughout the process of researching and writing this dissertation. Sincere thanks go to my mom and my grandma whose love and guidance are with me in whatever I pursue. They are my role models. I undoubtedly could not have done this without their support. Most importantly, I would like to share my appreciation to my loving and supporting husband, and my wonderful kids, Omar and Layan, who provide unending inspiration.

TABLE OF CONTENTS

Page

CHAPTER Page

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

Abbreviations Used in Glosses

2	second person
3	third person
ACC	accusative
F	feminine
FUT	future
GEN	genitive
IMPF	imperfective
M	masculine
NOM	nominative
PFV	Perfective
PL	plural
PAST	past
S	singular

CHAPTER 1

INTRODUCTION

This chapter introduces the dissertation's central thrust of study and its main components. Specifically, it gives a brief summary of the literature that provides a theoretical foundation for the investigation, the scope of the study, the research questions, and the language studied i.e., Modern Standard Arabic (MSA). Also, the methodology and the source of data is presented. The chapter concludes with a guide for the content of the remaining chapters and an outline of their main findings.

Purpose of the Study

The unaccusative-unergative distinction (also known as split intransitivity and unaccusative hypothesis) was proposed by Perlmutter (1978). Perlmutter splits up intransitive verbs into two sub-classes: unergative verbs and unaccusative verbs. Unergative verbs involve volitional acts (e.g., *dance*), unaccusative verbs refer to non-volitional acts (e.g., *fall*). Put differently, unaccusative verbs revolve around Agents that are typically animate, whereas unaccusative verbs involve Themes that could be animate or inanimate. The unaccusative-unergative classification is based on various linguistic criteria (also called unaccusativity diagnostics).

This unaccusative-unergative classification has been accounted for in three different ways: the projectionist approach, the constructionist approach, and the mixed approach. The projectionist approach claims that the argument structure (and thus the unaccusative-unergative distinction) is determined by the lexical entry of the verb. On the other hand, the constructionist approach states that the argument structure (and thus the unaccusative-unergative distinction) is determined by the syntactic configurations the

verb appears in. Nevertheless, none of the two approaches provides a well-grounded explanation for the split intransitivity phenomenon i.e., the consistent behavior of some intransitives and the inconsistent behavior of others. Finally, the mixed approach incorporates both the projectionist and the constructionist approaches into the analysis of split intransitivity. Together, both approaches form the basis for the Split Intransitivity Hierarchy (henceforth: SIH) that explains the variation in split intransitivity in a systematic fashion. The SIH argues for "both a syntactic and a lexical characterization of split intransitivity" (Sorace, 2004, p.268) in order to account accurately for the complexity of the unergative-unaccusative distinction and the gradience in verbs' behavior. Drawing on "the specific contribution of the idiosyncratic meaning of verbs and its interaction with verbs' structural meaning" (Sorace, 2000, p.886), the SIH gives a more accurate classification in the case of some verb subclasses (e.g., verbs of emission that occupy a position midway between the unergative-unaccusatives extremes). Likewise, the dual unaccusative-unergative distinction renders some verbs ambiguous as seen in the case of verbs of motion. These verbs can be ambiguous between unergative and unaccusative readings as some of them might denote a change in location (unaccusative), while others indicate a controlled motional process (unergative).

The difference between the Unaccusative Hypothesis and the SIH is that the Unaccusative Hypothesis is a binary classification, while the SIH regards unaccusativity/unergativity as a gradient notion. The Unaccusative Hypothesis has proven to be problematic in the case of many verbs that can ambiguously fit both unaccusative/unergative readings (e.g.: verbs of emission that occupy a position midway between the unergative-unaccusatives extremes). Likewise, it renders verbs of motion

ambiguous between unergative and unaccusative readings as some of them might denote a change in location (unaccusative), while others indicate a controlled motional process (unergative). Needless to say, there are some verbs that may not pass all unaccusative/unergative diagnostics. In addition, certain verbs may show either unaccusative or unergative behavior depending on the features of the context they appear in. On the contrary, the SIH regards unaccusativity and unergativity as a gradient notion.

During the past 40 years, research on the unaccusative-unergative classification has increased our understanding of this phenomenon crosslinguistically, yet little attention has been paid to the nature of this classification in Modern Standard Arabic. More specifically, the SIH has been widely attested crosslinguistically i.e., it exists in many Western European languages. However, little is known about typologically different languages (e.g., Arabic). This dissertation investigates Arabic as an understudied language with respect to the unaccusative-unergative distinction in the spirit of the SIH as a framework. Following this approach, I divide Arabic intransitives into seven distinct categories based on their thematic and aspectual properties. Besides the unaccusativity/unergativity diagnostics, I will include frequently used telicity/durativity/stativity diagnostics to decide on the aspectual status and the classification of Arabic intransitives as well as the type of argument attached to them (e.g., Is it an agent, a theme, or something else?).

Lexical aspect is a key factor that hugely affects the syntax of the unergative-unaccusative distinction. The most well-known classification of lexical aspect was formulated by Vendler (1967) and then was adopted by Dowty (1979). Vendler classifies verbs into states, activities, accomplishments, and achievements. He groups them based

on their inner aspect/aktionsart features. Specifically, these categories are classified according to three semantic features: stative/dynamic (process), durative/punctual, and bounded/unbounded (telic/atelic). Vendler carried out a number of tests to decide on these categories. Later Dowty (1979) adopted this classification and added more tests to distinguish these categories. For instance, he distinguishes between statives and non-statives (i.e., activities and accomplishments) based on the following diagnostics: The incompatibility of statives with the progressive, the incompatibility of states with the imperative, the incompatibility of statives with agent-oriented adverbs such as *deliberately* and *carefully*, the fact that statives cannot occur as a complement of the verbs *force* and *persuade*, and finally only non-statives appear in pseudo-cleft constructions (p.55). A more detailed discussion of these diagnostics is included in Chapter 4. While lexical aspect is determined based on the inherent meaning of the verb itself, it is essential when analyzing this meaning to take into consideration the role of the grammatical aspect as well, and the interplay between the grammatical and the lexical aspect. However, little is known about the interplay between the two types of aspect in Arabic except for a few studies (e.g.: Fassi Fehri, 2012).

In this study, the focus will be on the intransitive classes proposed by Sorace (2000) and the kinds of inner aspect and theta-roles associated with them. Specifically, this aspect is analyzed based on well-known aspectual classifications and diagnostics proposed by many linguists. Among the well-known diagnostics are the following:

(1) states are typically incompatible with the progressive

(2) states are typically incompatible with the imperative

(3) durative predicates can be modified by a for-NP adverbial

(4) telic predicates can be modified by an in-NP adverbial

These diagnostics are applied for the purpose of mapping intransitives onto the relevant telic, durative, or stative category. Also, such diagnostics reflect the relevance of outer/grammatical aspect in reinforcing the lexical/inner aspect or even coercing it. For example, the progressive in (1) is a type of outer aspect that can be used as a test to distinguish durative predicates because it is compatible with them, whereas it is incompatible with other non-durative types of predicates (e.g., states). A more detailed discussion of the relevance of outer aspect is included in Chapter 2.

Scope of the Research

Previous research has shown that the binary classification of intransitives as either unergative or unaccusative is problematic because in a significant number of examples verbs may display variable behavior with respect to unaccusativity diagnostics within and across languages (e.g., *run*). The existence of this overlap has led some researchers to abandon the unaccusative hypothesis that characterizes intransitives in a purely lexical way as it cannot account for the compatibility of certain verbs with certain contexts. On the other hand, the SIH captures this variation in a very systematic way. Particularly, it identifies semantic components (i.e., telicity and agentivity) that are central for the syntax of unaccusativity and defines the principles governing the variable behavior of verb classes. The SIH organizes subsets of intransitive verbs according to their unergative/unaccusative behavior and states that there is gradience among these verb classes. Verbs that are found at the extremes of the hierarchy are categorical in their unaccusative/unergative behavior, whereas verbs closer to the center are more vulnerable to variable unaccusative/unergative behavior. Additionally, Sorace argues that telicity is a

gradient notion because semantically verbs denote telicity to different levels based on whether they indicate reaching a final state or not. Similarly, agentivity displays a gradient pattern i.e., it is determined by various compositional factors of the context the verb occurs in such as: “the degree of volitionality of the subject” (p.882). This is exemplified in the case of verbs of emission and verbs of motion. Emission verbs are the least agentive and thus they fluctuate in their in their auxiliary selection across languages. In the case of verbs of motion, *roll*-verbs are sensitive to telic expressions that can shift their aspect (and therefore syntactic classification).

This hierarchy was first attested for auxiliary selection and hence termed the Auxiliary Selection Hierarchy (ASH). Later when it was attested for other diagnostics of split intransitivity, it became also known as the Split Intransitivity Hierarchy (SIH). The hierarchy is regarded to be potentially universal i.e., it can apply to many syntactic characteristics of split intransitivity across languages (Sorace, 2004). For example, the SIH has been found on ne-cliticization in Italian (Sorace, 1995) and quantifier floating in Japanese (Sorace & Shomura, 2000). Research is required to confirm whether this hierarchy is also found in Arabic. The *be*/*have* auxiliary selection diagnostic is more language-specific, i.e. it is attested in many Germanic and Romance languages but does not exist is Arabic. Therefore, I will use the SIH framework as a demonstration that this hierarchy indeed affects other characteristics of split intransitivity in Arabic. This in turn would corroborate the evidence that this hierarchy underlies characteristics of unaccusative-unergative distinction in general. This study seeks to obtain data which will help to address this research gap.

The SIH is adopted as a basic framework for this dissertation. It is an aspectual and thematic hierarchy that was proposed by Sorace (2000) in order to organize intransitives according to their aspectual variation (telicity/durativity) and their degree of agentivity into unergative/unaccusative classes. It states that certain intransitives display "core" unergativity, certain intransitives reflect "core" unaccusativity, whereas other intransitives fluctuate in their syntactic behavior between these two extremes. The SIH divides intransitives into seven classes: change of location, change of state, continuation of a pre-existing state, existence of state, uncontrolled process, controlled motional process, and controlled nonmotional process. Within this hierarchy change-of-location verbs represent the core unaccusatives, while controlled nonmotional process verbs are the core unergatives as shown in Figure 1.

Figure 1

Split Intransitivity Hierarchy (SIH)

Change of location (least variation, core unaccusatives)

Change of state

Continuation of state

Existence of state

Uncontrolled process

Controlled process (motional)

Controlled process (non-motional) (least variation, core unergatives)

The three aspectual classes (telic/stative/durative) can be seen in this hierarchy. For example, in English change of location and change of state classes are telic,

continuation of a state and existence of state verbs are stative, while verbs of uncontrolled process, controlled motional process, and controlled nonmotional process are durative. Languages differ slightly in how they set the boundaries between these unergative and unaccusative classes. In other words, within a single language, there is a "cutoff point" (p. 887) between unergatives and unaccusatives, but the location of this "cutoff point" may vary across languages. For example, in Dutch the three top categories select *be*-auxiliaries (i.e., unaccusatives) while the four lower categories take *have*-auxiliaries (i.e. unergatives). In addition, not all languages distinguish all these seven classes. Some languages may mix classes, while others may "make finer distinctions within classes" (p.871). Research is required to confirm whether the SIH is also found in typologically different languages such as Arabic. Thus, the goal of this dissertation is to answer the following questions:

(1) How does Split Intransitivity Hierarchy work in Arabic? Which verb classes are core unaccusative/telic and which ones are core unergative/durative? Which ones are in the middle?

(2) Where does Arabic set the boundaries between unergatives and unaccusatives?

(3) How are the verbs' inner aspectual properties (i.e., telicity and durativity) are gradient in Arabic?

(4) Which verb classes are sensitive to the agentivity of the subject?

(5) Are there verbs that display variable behaviors? i.e., verbs that oscillate between a telic and an atelic reading?

(6) How can the grammatical aspect (perfective/imperfective) coerce these verbs and change their inner aspect?

Language Investigated

The unaccusative-unergative distinction has been widely attested crosslinguistically i.e., it exists in various Western European languages. However, little is known about typologically different languages i.e., non-Indo-European languages. This dissertation investigates Arabic as an understudied language with respect to the unaccusative-unergative distinction and lexical aspect.

In this study, the language investigated is Modern Standard Arabic (MSA). It is a Semitic language of the Afro-Asiatic family of languages. According to Aoun et all. (2010), "Arabic displays some of the typical characteristics of Semitic languages: root-pattern morphology, broken plurals in nouns, emphatic and glottalized consonants, and a verbal system with prefix and suffix conjugation" (p. 1). Many scholars differentiate between MSA and Classical Arabic (CA). According to Aoun et all (2010), Classical Arabic (CA) developed in the seventh century as a result of the standardization of the language of the Quran and poetry, while MSA emerged in the nineteenth century and the early twentieth century as a result of the modernization of Arabic. This process of modernization was deemed necessary in order to "preserve" Arabic from dialectal variations and foreign influence and add necessary modifications adjusting it to the needs of the modern world (p.2). Thus, these two language varieties symbolize two different historical and cultural eras. Thus, they are different from each other in terms of vocabulary and style. However, they are widely similar in terms of syntax (Ryding, 2005, p.4). MSA is used in schools and formal education settings, mass media (e.g.: radio and television), and print media (e.g., newspapers, books, advertisements ...etc.). It is spoken

by more than 200 million speakers in 20 countries in the Middle East and North Africa (Gordon, 2005). In this study, the term Arabic is used to refer specifically to MSA.

Methodology and Corpus Analysis

I use the SIH to study intransitives in Arabic and analyze the unaccusative-unergative distinction. I consider this hypothesis as a working approach that helps analyze and formulate predictions about the nature of unaccusative-unergative distinction in Arabic. This hierarchy expresses the variation in the behavior of intransitives in a very systematic way. Specifically, intransitives display variation to various degrees: The divergence is minimal with core verbs and increasingly sharper with noncore ones. Furthermore, the behavior of intransitives can be generally predicted from their position on the hierarchy. Thus, an important prediction of this hierarchy is that there is more overlap among intermediate classes than within the two classes at the extremes. I will check if this prediction holds true in the case of Arabic. Following Sorace's classifications, I divide Arabic intransitives into seven semantic categories: change of location, change of state, continuation of a pre-existing state, existence of state, uncontrolled process, controlled motional process, and controlled nonmotional process. Aspectually, I associate each of these seven verb classes with the appropriate type of inner aspect (e.g., telic, stative, or durative). I apply diagnostics that have been suggested to distinguish unaccusative verbs from unergative ones and carry out tests of telicity, stativity, and durativity whenever applicable. For each class, I further examine the contribution of the outer aspect to the inner aspectual specification of these verbs.

To investigate the unaccusative-unergative distinction in Modern Standard Arabic, I use (1) corpus-based data and (2) native speaker judgments. The Arabic Corpus

(http://arabiCorpus.byu.edu) is used to extract Arabic data. It is an online web-search engine developed by Dilworth B. Parkinson at Brigham Young University (BYU). The corpus has a total of 173,600,000 words. The bulk of the corpus data comes from newspapers. There are also various premodern texts, modern literature, and nonfiction. This corpus is not tagged with part-of-speech (POS). Instead, it has filters that help identify the part of speech as follows: noun, adjective, adverb, verb, and string. This makes the search for a certain grammatical category (e.g.: a verb) hard work, i.e. the search may yield various lexical items that are irrelevant to the verb form in question. For example, search for the verb *θahaba* "went" may include many instances of the verb itself, in addition to other unrelated words (e.g., *θahab* "gold"). Thus, in such cases the search unwanted results have to be manually screened out to make sure that only right instances are collected. The second source of data that I utilize is intuitive judgment of native speakers. Examples are identified as grammatical or ungrammatical based on judgments of native speakers of Arabic from Saudi Arabia.

Organization

This dissertation consists of 6 chapters. Chapter 2 provides a review of the main approaches to argument structure. I first elaborate on the projectionist (lexicalist) approach. I touch on some main lexicalist models, highlight some challenges that face this approach. Then I discuss the constructionist approach and focus on major constructionist proposals. After that I mention some mixed approaches of some scholars (e.g., Sorace 2000 and Van Gelderen 2013, 2018) who maintain that both approaches are important. Simply put, both information from the lexicon and the syntax are crucial to determine the argument structure. Sorace's account (represented in the SIH) combines

both approaches in analyzing split intransitivity. At the end of the chapter, the unaccusative hypothesis is presented, and finally split intransitivity hierarchy is discussed in detail.

In Chapter 3, I introduce the two telic verb classes that were captured in the SIH: change-of-location verbs and change-of-state ones. This chapter addresses the type of the lexical aspect that accompanies Arabic change-of-location and change-of-state verbs. To do that, I apply the syntactic tests that distinguish unergatives from unaccusatives and I test their compatibility with diagnostics for telic, durative, and stative categories. The findings suggest that both classes in Arabic are unaccusative, yet they differ in their degree of telicity i.e., there is obviously gradient variation in their telicity. Change-of-location verbs are core unaccusative and the strongest in their telicity. Then come change-of-state verbs. This class shows variable behavior. While they can indicate change to varying degrees, the majority of verbs in this class express indefinite change i.e., they don't specify an endpoint. Thus, this class in Arabic varies in its degree of telicity and is considered noncore unaccusative.

In Chapter 4, I discuss the kind of aspect associated with verbs that typically denote states i.e., verbs of continuation of a preexisting state and verbs of simple existence. The chapter starts with a discussion of the difference between statives and non-statives. The leading idea of this chapter is that statives in Arabic are the most indeterminate with respect to unaccusative/unergative diagnostics due to their position in the middle of the hierarchy and their distance from the unergative and unaccusative cores. Thus, they are the most susceptible to the characteristics of the construction they appear in. Arabic verbs of continuation are durative, while verbs of existence are mostly stative,

except for positional verbs which can vary in their inner aspect and may be telic, durative, or stative depending on the meaning they have.

In Chapter 5, I investigate the kind of aspect connected to the durative verbs in the Sorace's hierarchy: uncontrolled process, controlled motional process, and controlled nonmotional processes. I first introduce durative verbs, followed by a discussion of the difference between the durative and the punctual events. Then, I examine the behavior of these classes in Arabic and test their compatibility with the unaccusativity/unergativity diagnostics. The main findings of this chapter are that durative classes in Arabic are gradient in their degree of durativity. The class of uncontrolled process reflects the lowest level of durativity. Specifically, it is the most sensitive to the characteristics of the predicate (i.e., telicity). This is expected as verbs of uncontrolled process are closer to the middle of the Sorace's Hierarchy. Verbs of controlled motional process are more unergative/durative than verbs of uncontrolled process and less categorical in their behavior than verbs of controlled nonmotional process. Finally, verbs that denote controlled nonmotional processes are core unergative/durative and the most explicit in their behavior.

Finally, in Chapter 6, the dissertation is concluded with a summary and some suggestions for further studies.

CHAPTER 2

ARGUMENTS STRUCTURE

1 Introduction

In this chapter, I view argument structure, aspect, the Unaccusative Hypothesis, Sorace's Hierarchy, and gradience in split transitivity. My goal is to outline the main approaches. The literature on argument structure can be divided into two main strands: the projectionist (lexicalist) and the constructionist approach. The projectionist approach argues that the lexical entry of the verb determines its argument structure. On the other hand, the constructionist approach claims that the syntactic context of the verb decides its argument structure. I will first address the projectionist take on argument structure and then discuss the constructionist view. Finally, I will mention some mixed approaches.

2 The Lexicalist approaches

As stated above, there are two main approaches to argument structure: The projectionist approach and the constructionist one. In this section, I discuss the projectionist proposal and mention main proponents of this approach.

Early thoughts about argument structure were introduced by Gruber (1965), Fillmore (1968), Jackendoff (1972). Based on their work, Chomsky (1981) introduced theta-roles and their relation to argument structure. The projectionist (lexicalist) approach assumes that the lexical entry of the verb specifies the argument structure of a clause i.e., the type of structure and the number of arguments are stored in the lexicon. Proponents of the projectionist approach who believe in the lexicon as the sole module that determines the argument structure of the clause are many (e.g., Reinhart, 2002; Levin & Rappaport Hovav 1992, 1994, etc.). Reinhart (2002) explains the lexicalist approach as follows:

> Although we could, in principle, assume many separate verb entries for the same verbal concept, linguistic practice is guided by the principle of Lexicon Uniformity, which states that each verb-concept corresponds to one lexical entry with one thematic structure, and entails that the various thematic forms of a given verb are derived by lexicon-operations from one thematic structure. Thus, most linguists don't view a passive verb as an entry independent of its active alternate and listed separately in the lexicon. (Reinhart, 2002, p.284)

Against a strict lexicalist approach, Rappaport Hovav & Levin (1998, p.97) point out that many manner verbs such as *sweep*, *whistle*, and *run* show argument structure flexibility that cannot be justified under the lexical approach as in the following examples (1)-(3).

(1) a. Terry swept.

b. Terry swept the floor.

c. Terry swept the crumbs into the corner.

d. Terry swept the leaves off the sidewalk.

e. Terry swept the floor clean.

f. Terry swept the leaves into a pile.

(2) a. Kim whistled.

b. Kim whistled at the dog.

c. Kim whistled a tune.

d. Kim whistled a warning.

e. Kim whistled me a warning.

f. Kim whistled her appreciation.

g. Kim whistled to the dog to come.

h. The bullet whistled through the air.

i. The air whistled with bullets.

(3) a. Pat ran.

b. Pat ran to the beach.

c. Pat ran herself ragged.

d. Pat ran her shoes to shreds.

e. Pat ran clear of the falling rocks.

f. The coach ran the athletes around the track.

This variation in argument structure poses a challenge for the lexical approach. Rappaport Hovav & Levin present this challenge as follows:

> On an approach which takes argument expression to be determined from a lexical semantic representation via linking rules, verbs with multiple options for the expression of arguments have to have multiple lexical semantic representations. If such variation is the rule rather than the exception—and recent studies show that the phenomenon is indeed widespread—then the lexicon must contain a vast number of verbs with multiple lexical entries. (p.98)

Assuming that all these argument structure possibilities are listed in the lexicon renders an undesirable result and entails that for examples (1)-(3) there are six different verbs *sweep*, nine different verbs *whistle*, and six different verbs *run*.

Further, Rappaport Hovav & Levin argue that this variation is associated with entire semantic classes of verbs. The verb *wipe* is a verb of surface contact through

motion (manner verbs). Therefore, it shows the same variation and can be found in the same context as *sweep*.

(4) a. Terry wiped.

b. Terry wiped the table.

c. Terry wiped the crumbs into the sink.

d. Terry wiped the crumbs off the table.

e. Terry wiped the slate clean.

f. Terry wiped the crumbs into a pile.

In contrast, manner verbs are distinct from "result verbs" such as *break* and *open* that specify the result of the action denoted by the verb. Result verbs exhibit less variability in meaning and in syntactic context than manner verbs do. For instance, result verbs do not allow an intransitive variety. While the verb *sweep* can occur as an intransitive as in (5), *break* cannot as in (6), except if it is part of the causative-inchoative alternation.

(5) Lessie swept.

(6) *Kelly broke. (Rappaport Hovav & Levin, 1998, p. 102)

Furthermore, another difference between those two sets of verbs can been seen in the following examples (Rappaport Hovav & Levin, 1998, p.103). Manner verbs can occur with more "non-subcategorized objects". In (7a) *her fingers* is non-subcategorized object because it is not the surface that is being scrubbed. In fact, the surface itself is not being provided.

(7) a. Cinderella scrubbed her fingers to the bone.

b. ∗The clumsy child broke his knuckles to the bone.

c. The child rubbed the tiredness out of his eyes.

d. ∗The clumsy child broke the beauty out of the vase.

Rappaport Hovav & Levin also point out that *sweep* and other manner verbs can be used as verbs of change of location, change of state, and creation, whereas *break* and other result verbs cannot show the same range of uses. In the following examples, the (a) sentences with the verb *break* cannot be interpreted in a way similar to the (b) examples with a manner verb. The intended meaning for each (a) example is provided.

(8) a.∗Kelly broke the dishes off the table.

(meaning: Kelly removed the dishes from the table by breaking the table)

b. Kelly swept the leaves off the sidewalk.

(9) a.∗Kelly broke the dishes off the table.

(meaning: Kelly broke the dishes and as a result they went off the table)

b. Kelly shoved the dishes off the table.

(10) a.∗Kelly broke the dishes into a pile.

(meaning: Kelly broke the dishes and made a pile out of them)

b. Kelly swept the leaves into a pile.

They indicate that manner verbs and result verbs have different aspectual classification: manner verbs are activities, while result verbs are either achievements (e.g.: *arrive*) or accomplishments (e.g.: transitive *break)*. They adopt predicate decompositions to describe verbs' internal meaning. These predicate decompositions in (11) consist of two main components: primitive predicates and constants (italicized in angled brackets). Constants represent the idiosyncratic properties of a verb, while the structural properties are represented by "specific combinations of primitive predicates" (p.108) and the verb meaning is the sum of both the idiosyncratic components and the structural components.

Activities have a simple event structure as in (11a). Accomplishments as in (11c) are complex events and made up of two subevents: the causing event (mostly an activity) and the change of state it brings about. Finally, achievements as in (11b) have a simple event structure that lacks the causing subevent that distinguishes accomplishment.

(11) a. [x ACT MANNER] Activities

b. [BECOME [x <*STATE*>]] Achievements

c. [[x ACT MANNER] CAUSE [BECOEM [y <*STATE*>]]] Accomplishments

Rappaport Hovav & Levin account for the argument structure variation in (1-3) by assuming that an activity verb can be expanded to "yield various kinds of accomplishments" (p.104). In addition, they attribute much of the variation in verb meaning to the Augmentation Principle in (12) which states that:

(12) **Template Augmentation**

Event structure templates may be freely augmented up to other possible templates in the basic inventory of event structure templates. (p. 111)

As you can see, within the projectionist model certain verbs can have multiple meanings. As a result, such verbs can have different lexical semantic representations, with different argument structure realization. This is problematic and hence the constructionist approaches were proposed as alternatives to the projectionist ones.

In this section, I have touched on the projectionist approaches. I will turn to the constructionist models next.

3 The Constructionist Approaches

The constructionist approaches emerged in the late 1980s. They posit that the argument structure is not specified by the verb's lexical entry. Rather, it is determined by

the syntactic configuration of the verb. Before discussing different models of the constructionist approach, I introduce an important milestone in the development of approaches to argument structures i.e., the vP-shell. It was introduced by Larson (1988) and is particularly useful in representing the different intransitive structures i.e., unergatives and unaccusatives.

Larson uses a double VP to accommodate double object constructions in English. He analyzed the double object alternation by adapting an approach about dative complement constructions from Chomsky (1955/75) which states that "a simple dative like John sent a letter to Mary derives from an underlying form in which the verb and its indirect object make up a constituent that excludes the direct object" (p.335). Therefore, he argues that that the VP in (13) is in D-Structure and that (14) is derived by raising.

(13) John [VP a letter [V' send to Mary]]

(14) John send [VP a letter [V' t to Mary]]

Larson's proposal adheres to the binary branching requirement of the X-bar Theory through expanding the VP and allowing the verb *send* to move to the higher, little v. In the same vein, influential contributions to the vP-shell have been made by Sportiche (1988) and Koopman & Sportiche (1991). Specifically, Koopman & Sportiche (1988) introduced VP-Internal Subject Hypothesis (VPISH) which argues that all subjects originate in the Specifier of VP and then move to the Spec IP (now Spec TP).

Proponents of the constructionist approach include Hale & Keyser (1993, 2002), Ramchand (2008), and Borer (2005). Hale & Keyser's (2002) approach is semi-constructionist because they argue that both the lexical entry of the verb and the verb's syntactic structure determine the argument structure. They assume that "argument

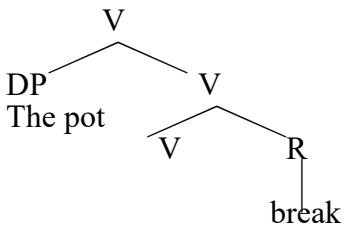
structure is determined by properties of lexical items, in particular, by the syntactic configurations in which they must appear" (p.1). According to them, lexical items project a syntactic configuration that involves two structural relations: complement and specifier. These relations are constrained to prevent iteration and to allow only binary branching. Verbs have two components: a root and a verbal host. They distinguish the verb *break* in (16) from the verb *cough* in (17) structurally.

(16) I broke the pot.

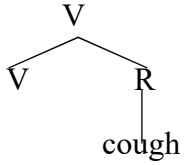
(17) *I coughed the engine.

The root *break* in (16) requires a specifier as in (19). It can merge with another V and a specifier and allows for the transitive variant as in (21). The process involved here is called "conflation" (p.12). The V2 *break* conflates with V1 by having "the phonological matrix of the of a complement *C* … introduced into the empty phonological matrix of the head that selects (and is accordingly sister to) *C*" (Hale & Keyser, 2002, p.12). On the other hand, the root *cough* in (17) does not require a specifier as in (20). Hence, it cannot occur transitively because there is no specifier to be licensed by V1 as in (23).

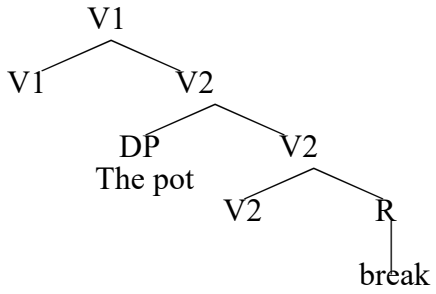
(19)



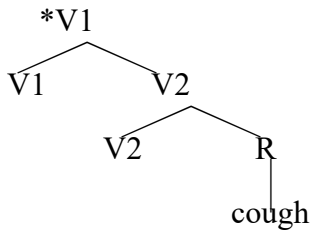
(20)



(21)



(23)



They claim that the subject in sentence (16) repeated in (25) "is an external argument… and therefore not an argument (specifier or complement) internal to the lexically projected configuration" (Hale & Keyser, 2002, p. 6).

(25) I broke the pot.

In Hale & Keyser's model, some theta-roles are attributed to the structure. For example, they attribute "cause" interpretation to the structure alone: "the "cause" interpretation is simply the normal interpretation of the [V1 [V2]], . . . that is to say, "cause" is an interpretation assigned to certain structures and, hence, is unlike the "agent" or "instrumental" component of verbs like cut, stab, smear, and so on" (p.176). They maintain that "agent" and "instrument" are inherent components in the lexical entries of the cut class of verbs but not of cough or make a fuss. Therefore, Hale & Keyser's approach occupies an intermediate position in the debate of attributing argument structure to the lexical characteristics of the verb or to the functional heads.

Ramchand (2008) adopts a constructionist approach to argument structure, claiming that syntax is crucial in determining argument structure. However, she does not

entirely reject the role of the lexical entries of the verb. In her approach, "roots" contain lexical information about syntactic selection. She distinguishes two extremes with respect to how much information is attributed to the lexical root as shown in (26) and (27).

(26) **The naked roots view**

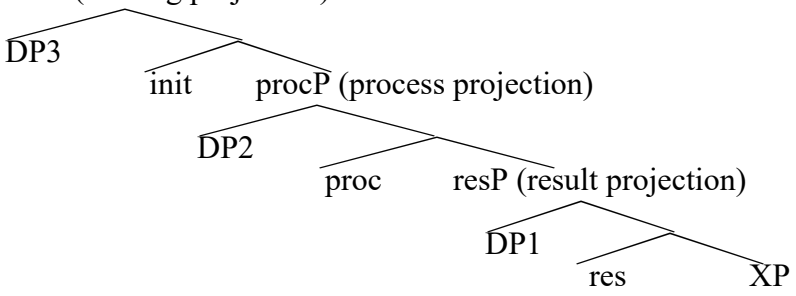
"The root contains no syntactically relevant information, not even category features." (p.11)

(27) **The well-dressed roots view**

"The root may contain some syntactic information, ranging from category information to syntactic selectional information and degrees of argument structure information, depending on the particular theory. This information is mapped in a systematic way onto the syntactic representation which directly encodes it" (p.11).

Ramchand doesn't advocate the naked roots view since she argues that the lexical entries are not totally devoid of syntactic information. On the contrary, Ramchand's approach corroborates the well-dressed roots view, as she "[seeks] to encode some notion of selectional information that constrains the way lexical item can be associated with syntactic structure" (p.3). The main idea behind Ramchand's proposal is that "the syntactic projection of arguments is based on event structure" (p.39) and that the syntactic structure has a specific semantic interpretation: "the semantics of event structure and event participants is read directly off the structure, and not directly off information encoded by lexical items" (p.42). She assumes that the event structure contains three subevents: a causing subevent, a process, and a result as shown in the following tree (p.39).

(26) initP (causing projection)



She defines these subevental compositions as follows.

(27) **initP** introduces the causation event and licenses the external argument ("subject" of cause = initiator)

(28) **procP** specifies the nature of the change or process and licenses the entity undergoing change or process ("subject" of process = undergoer)

(29) **resP** gives the "telos" or "result state" of the event and licenses the entity that comes to hold the result state ("subject" of result = resultee)

Borer's (2005) "exoskeletal" approach is more radical than Hale & Keyser's and Ramchand's in that it limits the role of the lexicon in determining the argument structure. According to Borer, the lexical properties of a verb do not specify the argument structure. Instead, it is the syntax that determines the argument structure. She states that it is the "distinct syntax of the functional structure associated with the arguments which determines their interpretation" (2005, p.57). She argues that "syntactic properties typically associated with listed items, notably argument structure and category type, are, in fact, properties of structures and not properties of the listed items themselves" (Borer, 2003, p.33). Borer discussed a paradigm from Clark & Clark (1979) to show that that the meaning of the verb siren cannot be determined by the lexicon alone, and that it depends on the syntactic constructions as in (30).

(30) a. The factory horns sirened throughout the raid.

b. The factory horns sirened midday and everyone broke for lunch.

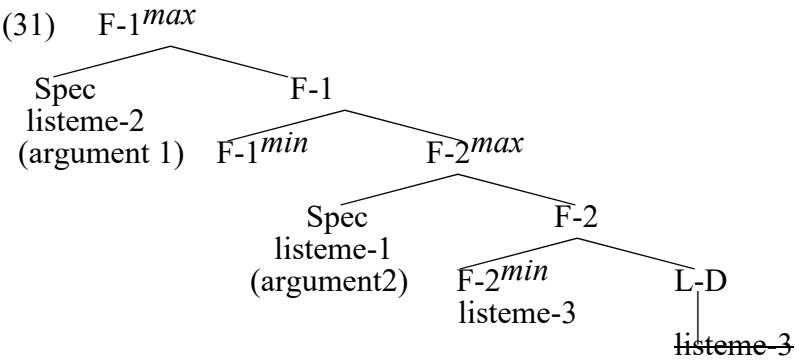
c. The police car sirened the Porsche to a stop.

d. The police car sirened up to the accident site.

e. The police car sirened the daylight out of me.

In the paradigm above, the shared meaning (i.e., the emission of siren noise) is maintained in each example, while the specific meaning is determined by the syntactic construction in which the verb appears in. If we claim that the argument structure is lexically specified, we need five lexical entries of the verb siren, and each lexical entry has a slightly different meaning. However, if we embrace a syntactic approach to argument structure, we need a single lexical entry with a single meaning that can be augmented according to the structure in which the verb occurs. This means that the verb meaning comes from the syntactic environment the verb finds itself in and not just from the verb itself. Borer (2005, p. 30) uses the following schematic structure of the argument domain.

(31)



The bottom part is the lexical domain (L-D). Borer defines the lexical domain as "the domain that emerges from the merger of some listeme from the conceptual array (p. 27). A listeme "is a unit of the conceptual system, however organized and conceived, and its

meaning, part of an intricate web of layers, never directly interfaces with the computational system" (p.11). Listemes are also called roots in Distributed Morphology terminology (p.20). The specific merger of listeme-1 and listeme-2 as [Spec,F-1] or [Spec, F-2], respectively, will result in a particular interpretation ('subject', 'object', etc.). According to Borer, "Listeme-3, by virtue of having merged a copy in some intermediate head, becomes the head of L-D" (p.28). If L-D is categorized as a V by some functional structure, listeme-3 becomes a verb. If L-D is categorized as N, it becomes a noun, etc. (Borer, 2005, p. 28).

4 The Mixed Approach

In the above section I have discussed the constructionist approach, I will turn to the mixed approach next. The mixed approach incorporates both the projectionist and the constructionist approaches into the analysis of argument structure. Proponents of this approach are Sorace (2000) and van Gelderen (2013, 2018). Sorace characterizes split intransitivity both semantically and syntactically. The gradience in SIH incorporates both the projectionist and the constructional approaches. In particular, Sorace stresses the importance of "understanding of the interplay of lexical and structural meaning" (p.886) in order to fully explain the nature of gradience.

van Gelderen (2013) argues that both approaches are important i.e., both the information about the verb in the lexicon and the surrounding structure play a role in determining the argument structure. The verb itself is very essential because there are verbs that cannot be transitivized, e.g., *arrive* in (32) and *bloom* in (33).

(32) *I arrived the bus.

(33) *The sun bloomed the sunflower. (van Gelderen, 2013, p.84)

These verbs don't have a causative alternation because of their semantic nature, i.e., they can only take a theme argument and they resist a causer argument. The event of arriving and blooming is internally caused i.e., *the bus arrived* and *the sunflower bloomed* because of something internal to the bus and the sunflower. In contrast, events denoted by verbs such as: *boil* and *melt* are externally caused. There is an outside force or an external causer that brings about the event. Thus, externally caused verb can be transitivize easily. In addition, *freeze*-type verbs have a different argument structure from *break*-type ones across languages. The verb *freeze* typically takes one argument, while the verb *break* often takes two arguments (Haspelmath, 1993). Haspelmath studies the causative-inchoative alternation of 31 verb pairs in 21 languages. He suggests a split between two types of events: spontaneously occurring events i.e., events that occur without the need of an external agent or an instigator, and externally caused events or events that require an external causer to bring about the action. He classifies these two sets of verbs according to a scale of "likelihood of spontaneous occurrence" (p.105) with the least spontaneous meanings (e.g., *split, close, break*, …etc.) being at the one end and the most spontaneous meaning being at the other end (e.g., *boil, freeze, melt*, …etc.) as shown in Table 2.1.

Table 2.1

Alternating Verbs in Haspelmath (adapted from van Gelderen 2013, p.93)

Spontaneous, or freeze-type:
boil, freeze, dry, wake up, go/put out, sink, learn/teach, melt, stop, turn, dissolve, burn, destroy, fill, finish.
Outside force or break-type:
begin, spread, roll, develop, get lost/lose, rise/raise, improve, rock, connect, change, gather, open, break, close, split, die/kill.

Cysouw (2010) calculated the proportion of languages that use a causativizing strategy in Haspelmath's (1993) study. He arranges verbs according to the scale of "likelihood of spontaneous occurrence" placing the least spontaneous meanings at the top (e.g.: *split*, *close*, *break*) and the most spontaneous meaning at the bottom (e.g.: *dry*, *freeze*, *boil*, *die*/*kill*). As an illustration, the verb *boil* is causativized in 96 percent of the languages, while *split* is causativized in 4 percent.

Table 2.2

Proportion of Causativizations across Languages (Haspelmath, 1993, p.104)

split	0.04	develop	0.33	melt	0.68
close	0.06	roll	0.35	learn/teach	0.68
break	0.07	spread	0.35	sink	0.70
open	0.10	begin	0.38	go out/put out	0.71
gather	0.12	finish	0.38	wake up	0.75
change	0.12	fill	0.38	dry	0.77
connect	0.14	be destroyed/ destroy	0.39	freeze	0.86
rock	0.25	burn	0.42	boil	0.96
improve	0.26	dissolve	0.42	die/kill	1.00
rise/raise	0.27	turn	0.48		
get lost/ lose	0.28	stop	0.62		

Additionally, van Gelderen contends that the importance of the verb's surrounding structure can be seen in the role of *coercion* in determining the argument structure. The vP shell makes room for aspect and head positions. Adding a functional head position in the vP can change the verb's valency. This is can be seen in Old English and across other languages. For example, the use of *ge-* in old English changes intransitives into transitives as in (34).

(34) *ærnan* "to run" *geærnan* "to reach"

feran "to go" *geferan* "to reach"

gan "to go" *gegan* "to overrun, subdue"

hyran "to hear" *gehyran* "to learn about"

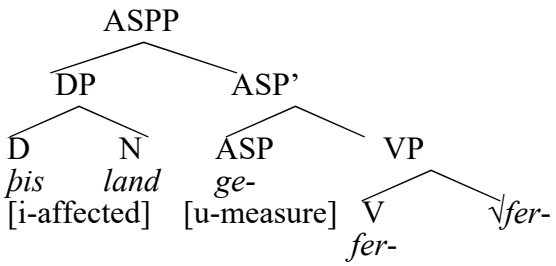
restan "to rest" *gerestan* "to give rest"

winnan "to labor, toil" *gewinnan* "to gain, conquer"

wadan "to go" *gewadan* "to traverse" (van Gelderen, 2013, p.85)

Using the vP shell, van Gelderen depicts the functional head ASP and measures features in ASP that are responsible for the affectedness of the theme as in (35).

(35)



In the tree above, the ASP *ge-* is a light verb that allows adding a theme argument. By the same token, the vP-shell might account for the addition of results to activity verbs in Modern English. This is evident in the case of verbs such as *sneeze* and *talk* in (36a) and (37a). The vP-shell determines the type of argument structure associated with this set of

verbs: If there is a Result, there has to be a Theme. Hence, (36b) and (37b) are ungrammatical.

(36) a. Maybe he sneezed it off the hinges and that was why it fell out of the sky.

b. *He sneezed it.

(37) a. and they talked themselves to sleep.

b. *They talked themselves/her. (van Gelderen, 2013, p.110)

5 Aspect

In this section, I discuss aspect and how it gets modified by the environment around the verb.

Aspect focuses on how an action or event proceeds. There are two types of aspect: inner aspect (also called lexical aspect, Aktionsart, or situational aspect) and outer aspect (also called grammatical aspect or viewpoint aspect). The inner aspect is determined by the meaning of the verb. It is about the "inherent temporal features of the lexical content" (Klein, 1994, p.72). On the other hand, the outer aspect is concerned with "viewing events from the outside, i.e., if an action happens to be bounded or lasts a long time" (van Gelderen, 2018, p.19).

The most well-known classification of lexical aspect was proposed by Vendler (1967). Vendler classified verbs based on their telicity and durativity into states, activities, accomplishments, and achievements as shown in Table 2.3. Comrie (1976) adds a fifth class, semelfactives. A semelfactive refers to "a situation that takes place once and once only" (p.42) as in (*tap*, *wink*, *sneeze*, ... etc.), and they are considered dynamic.

Table 2.3
Lexical Aspect "Aktionsart" (Vendler, 1967)

	+Durative	**-Durative**
+Telic	Accompliment=build a house	Achievement= recognize
-Telic	Activity= swim	State=know, be tall

The lexical aspect is determined based on many diagnostics. The most common diagnostics that distinguish durative, states, and telic categories are listed in (38).

(38) a. states are typically incompatible with the progressive.

b. states are typically incompatible with the imperative.

c. durative predicates can be modified by a for-NP adverbial.

d. telic predicates can be modified by an in-NP adverbial.

(van Gelderen, 2018, p.20)

A large body of literature has shown that aspect and argument structure are connected. Consequently, we can coerce the lexical aspect of some verbs, i.e., change it from durative to telic if we add a new argument, e.g.: an object or a goal. For instance, the verb run changes its aspect from durative to telic if we add the object "the mile" or the goal "to the store" (van Gelderen, 2013, p.102) as illustrated in the following examples.

(40) He ran for hours/*in five minutes. (Durative, atelic)

(41) a. He ran the mile in five minutes. (telic)

b. He ran to the store in five minutes. (telic)

However, adding an indefinite object or a progressive *-ing* weakens the telicity as in (42) and (43) (van Gelderen, 2013, p.102).

(42) He ate (of) a turkey for hours. (durative, atelic)

(43) He was eating the turkey for hours. (durative, atelic)

As stated before, unaccusative verbs are usually telic because they involve change of state, while unergatives are usually durative.

6 The Unaccusative Hypothesis

In this section, I discuss the Unaccusative Hypothesis which represents one of the most important hypotheses related to argument structure. I then delve into some semantic and syntactic properties that distinguish telic unaccusatives from durative unergatives. The Unaccusative Hypothesis states that not all intransitives are alike. In other words, some intransitives have one argument that behaves like a subject, while others have one argument that behaves like an object. There are a wide variety of syntactic and semantic patterns that help distinguish these types of intransitives.

The Unaccusative Hypothesis was first proposed by Perlmutter (1978) in the context of the Relational Grammar framework and later the hypothesis was analyzed within the Government-Binding model (Burzio, 1986). It assumes that crosslinguistically intransitive verbs are classified into two types, unaccusatives and unergatives. Unergative verbs have Agents that are usually animate whereas unaccusative verbs have Themes that are either animate or inanimate. Sorace (2000, p.879) explains the structural difference between unergatives and unaccusatives as follows: “The single argument of an unaccusative verb is syntactically equivalent to the direct object of a transitive verb,

whereas the single argument of an unergative verb is syntactically equivalent to the subject of a transitive verb".

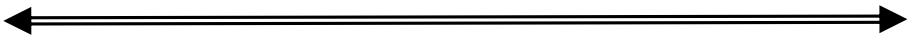
van Gelderen (2018) combines the Animacy Hierarchy in (44) and the Thematic Hierarchy in (45) with aspect and pragmatic and grammatical roles to form the continuum in (46) with the most animate on the left.

(44) **Animacy Hierarchy**

1st and 2nd person > 3rd person pronoun > proper name/kin term > human noun, animate noun, inanimate noun. (adapted from Whaley, 1997, p.173)

(45) **Thematic Hierarchy**

Agent > Causer > Experiencer > Theme > Goal (adapted from Jackendoff, 1972, p. 43 and Belletti & Rizzi, 1988, p. 344)

(46) 

animacy:	**animate**		**inanimate**
semantic role:	Agent-Causer	Experiencer	theme-goal
pragmatic role:	Topic		Focus
grammatical role:	subject		Object
aspect:	**durative**	**stative**	**telic**

From the cline above, we see that Agent, Topic, and Subject are on the animate side of the continuum, while Theme, Focus, and Object are on the inanimate one. The Agent/Causer takes a durative aspect, whereas a Theme has a telic aspect. The stative aspect goes with an Experiencer.

There are certain syntactic and semantic properties that distinguish each type. "Syntactically, the subject of unaccusative verbs behaves like the direct object of

transitive verbs, whereas the subject of unergative verbs behaves like the subject of transitive verbs" (Keller & Sorace, 2003, p.57). The unaccusative/unergative configurational distinction is exhibited by a number of diagnostics such as, "passives (Burzio, 1986), the cliticization of partitive *ne* in Italian (Belletti & Rizzi, 1981), the resultative construction in English (Levin & Rappaport Hovav, 1995), and the possessor dative in Hebrew (Borer, 1994, 1996)" (p.58). In the same vein, the choice of perfective auxiliaries, *be* or *have*, in Romance and Germanic language is another syntactic diagnostic of unaccusatives/unergatives (Sorace, 2000). Impersonal passivization is also seen as a test of unergatives.

Semantically, Keller & Sorace (2003) point out that "the unaccusative/unergative distinction has been regarded as being systematically related to the thematic characteristics of the predicate" (p.58) which means that unergatives have an Agent as their sole argument, while unaccusatives are compatible with a Theme. In other words, unergatives typically correlate with agentivity and unaccusatives typically correlate with a theme. Split intransitivity is also sensitive to aspectual features such as telicity and durativity.

van Gelderen (2018, p.29) mentions some differences between unergatives and unaccusatives as shown in table 2.4.

Table 2.4
Some Differences between Unergatives and Unaccusatives (Van Gelderen, 2018, p.29)

Unergative (Agent argument)	Unaccusative (theme argument)
a. *Deliberately* is ok	*Deliberately* is not ok
b. A theme can be added	No theme can be added
c. V+er	*V+er
d. Imperative is ok	Imperative not ok
e. Prenominal past participle not ok	Prenominal past participle ok
f. Have + perfect participle	Be + perfect participle
g. Impersonal passive	*impersonal passive (Dutch)
h. Sentence focus SV (Italian, Hebrew)	Sentence focus VS (Italian, Hebrew)

7 Gradience in Split Transitivity

In this section, I talk about the Split Intransitivity Hypothesis (SIH) and introduce important terms such as: gradience, variation, and fluid intransitivity.

The Split Intransitivity Hypothesis (SIH) proposed by Sorace (2000, 20004) organizes intransitives in a hierarchy according to their aspectual variation (telicity/durativity) and their degree of agentivity. This hierarchy was first attested for auxiliary selection and termed the Auxiliary Selection Hierarchy (ASH). Then it was attested for other diagnostics of split intransitivity and therefore termed the Split Intransitivity Hierarchy (SIH) as in Table 2.4. Sorace's hierarchy includes three aspectual classifications: telic, stative, and durative as shown in the table below.

Table 2.5
The SIH and the Distribution of the Aspects in English

Sorace's Label	**Example Verbs**	**Aspect**
Change of Location	come, arrive, fall	telic
Change of State	begin, rise, blossom, die	telic
Continuation of a pre-existing state	remain, last, survive, float	stative
Existence of State	exist, please, belong	stative
Uncontrolled Process	cough, laugh, shine	durative
Controlled Process (motional)	run, swim, walk, speed	durative
Controlled Process (non-motional)	work, play, talk	durative

According to Sorace, the two major factors that affect the syntax of split transitivity and lead to gradience in the diagnostics of split intransitivity are telicity and agentivity. Commenting on these factors, Sorace states that:

> The closer to the core a verb is, the more determinate its syntactic status as either unaccusative or unergative, and thus its compatibility with morphosyntactic diagnostics of unaccusativity or unergativity. Sensitivity to contextual or compositional factors also correlates with the distance of a verb from the core: verbs that are stative and non-agentive are the most indeterminate and therefore the most susceptible to alternations and variable syntactic behavior across languages. (pp. 69-70)

It's essential to differentiate between the terms *gradience* and *variation*. Sorace (2015) puts the difference between the two terms as follows:

> Variation refers to the existence of linguistic structures that may alternate freely or randomly (albeit within limits); in contrast, gradience refers to alternations that obey tighter constraints and result in degrees of variation (in the sense of graded likelihood to alternate) and graded perception of (un)acceptability. (p.25)

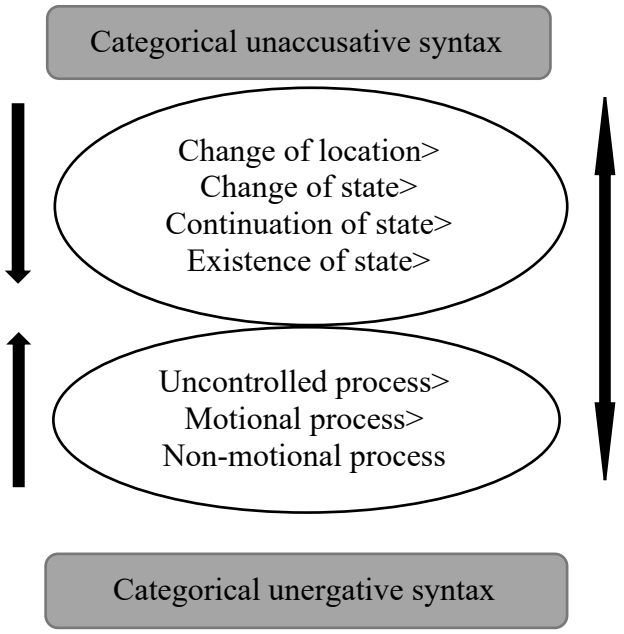
In the same fashion, she distinguishes *gradience* from *fluid intransitivity*, a term used by Creissels (2008) which refers to "fluctuation" in the behavior of intransitives that causes them to oscillate between unaccusatives and unergatives. To Sorace, the SIH is part of speakers' linguistic knowledge but not *variation* and *fluid intransitivity* because the SIH "is much more systematic and far from being exceptional" (p.70).

Let's turn to the seven verb classes mentioned by Sorace (2000) and discuss their gradient variation in one of the major characteristics of split intransitivity i.e., *auxiliary selection*. Sorace states that auxiliary choice in many Romance and Germanic languages depends on the aspect of the verb and its thematic distinction. Thus, these verbs differ in their auxiliary selection; "the two key notions are telic change, which strongly correlates with BE and agentive unaffecting process, which strongly correlates with HAVE" (p.862). Within Sorace's framework, core verbs are located at the extremes of the hierarchy, while noncore ones are in between. In particular, change-of-location verbs represent the core unaccusative verbs, while controlled nonmotional process verbs are the core unergative verbs. Sorace's analysis shows a crosslinguistic variation in the intermediate verbs' classification into unergative/unaccusative but not in the core ones. Intransitives in the middle of the hierarchy are less stable in their classification into unaccusatives and unergatives. Core verbs are "categorical" in their auxiliary selection i.e., they prefer one auxiliary over the other and are not sensitive to contextual factors

(e.g., temporal modifiers). On the other hand, noncore verbs show gradience in auxiliary selection and are sensitive to contextual factors. In Figure 2, core classes are at the top and the bottom of the figure, whereas the noncore classes are in between. Change-of-location verbs are core unaccusative, while controlled nonmotional process are core unergative. The intermediate verb classes are the least consistent among the ASH verb classes, and that they behave differently across languages. In a nutshell, Sorace's analysis suggests that telicity is one of the most important elements that affect the split intransitivity hierarchy. In addition, she relies on native speakers' judgments about auxiliary selection to distinguish core verbs from the noncore ones. Native speakers judge core verbs in a similar way i.e., they are very consistent in their judgement. However, they provide varying judgments about intermediate verb classes. This shows that intermediate verbs exhibit more variation than core ones.

An interesting remark about the nature of gradience represented by the SIH is that there are "cut-off points" (Sorace, 2000, p.887) between the verb classes and that the place of these points varies across languages and may even vary among speakers within the same language. For instance, in Italian the "cut-off point" between the unaccusatives and the unergatives is located between existence-of state-verbs and uncontrolled process verbs, as illustrated in Figure 2 (Sorace, 2015, p.38). Now let's explore each verb class in detail. All examples included are taken from Sorace (2000).

Figure 2
Intersective Gradience on the SIH for Italian (Sorace, 2015, p.38)



7.1 Change-of-Location Verbs

This class denotes a telic change of location. In Sorace's (2000) classification of intransitives, she defines change-of-location verbs as verbs that "involve a concrete displacement from one point in space to another" (p.863). She distinguishes these verbs from other subclasses of intransitives by stating that they "have the highest degree in their dynamicity and telicity" (p.863). Change-of-location verbs exhibit consistency in their selection of auxiliary be across languages. Native speakers show determinate intuitions about the selection of be across languages. For example, Italian uses the auxiliary *essere* "be" with this subclass of intransitives.

(47) a. Maria e venuta alla festa (Italian)

Maria is come to the party

"Maria came to the party."

b. Marie est arrivee en retard (French)

Marie is arrived late

"Marie arrived late."

c. De brief is met de tweede post gekomen (Dutch)

the letter is with the second post arrived

"The letter arrived with the second post."

d. Der Zug ist spät angekommen (German)

the train is late arrived

"The train arrived late." (Sorace, 2000, p.863)

One of the distinguishing characteristics of change of location subclass is that verbs in this class select be regardless of the aspectual features added by the structure they appear in (p.864). Therefore, the selection of auxiliary be with this subset doesn't get affected by the durativity/atelicity of the predicate. For instance, even if we add a for-adverbial, the auxiliary will stay *essere* in Italian as in (48).

(48) Sono arrivati ospiti per ore e ore (Italian, Sorace, 2000, p.864)

are arrived guests for hours and hours

"Guests arrived for hours."

Furthermore, agentivity does not affect the auxiliary selection with change-of-location verbs as shown in the following Italian examples (49a) and (49b).

(49) a. Maria e caduta apposta per farci spaventare (agentive)

Maria is fallen on purpose to make-us scare

"Maria fell on purpose to scare us."

b. Il bicchiere e caduto dal tavolo (nonagentive)

the glass is fallen from-the table

"The glass fell from the table."

To sum up, change of location verbs are inherently telic and consistently select auxiliary *be* irrespective of the agentivity of their subject or the aspectual elements added by the structure. Native speakers determinately accept *be* with this class of intransitives and reject *have*.

7.2 Change-of-State Verbs

The second class of verbs in Sorace's hierarchy is verbs that indicate a change of state. The majority of verbs in this class of intransitives denote "indefinite change" such as (1) verbs that denote directed motion (*rise, descend*), (2) internally caused verbs such as (*become, wilt, bloom, decay*) that denote a change but do not reach an endpoint, and (3) verbs that are "inherently telic" (p. 65) such as (*die, disappear, be born*). Since most verbs in this group, except (*die, disappear, be born*) express "indefinite change of state" (p.65), their degree of telicity is lower than the change-of-location verbs.

Change-of-state verbs typically do not express delimitedness (i.e., telicity). Sorace points out that "they … imply a series of interim states and of gradual approximation to a telos which is not necessarily reached) (p.865). For example, the verb *cool* implies a series of cooler states even though the entity that undergoes the change of state, i.e., the cooling, may not get cold or reach a cooling endpoint. It should be noted that there are two types of indefinite change of state verbs: Those that imply that a telos/an endpoint is achieved (e.g.: *decay*) and those that imply that a telos is not reached (e.g.: *rise*). That being said, change of state verbs are telic, but their telicity is lower than the change-of-

location verbs. Therefore, the final state of the entity exhibiting or undergoing the change/process might be deducted to different degrees, but the change cannot be exactly measured (p.865). Because they are not inherently delimited/bounded, many change-of-state verbs are compatible with constructions that don't indicate a "measure". On the other hand, change-of-location verbs are incompatible with structures that "specify a delimiter" (p.865) as illustrated in the following examples.

(50) a. The wood began to decay.

b. The temperature began to rise.

c. *The train began to arrive.

d. *My friend began to leave.

The change-of-state class also contains verbs of appearing such as (*appear*) and verbs of happening such as (*occur* and *happen*) (p.865). These verbs are different from verbs of existence in that "they have a transition component in their semantics: both 'appearing' and 'happening', in fact, imply that an entity or event comes into existence" (p.865). The syntactic behavior of change of state verbs is less consistent than the change of location verbs across languages. For instance, in Italian most verbs of change of state (including verbs of appearing and happening select *essere*, as in (51). Nevertheless, native speakers' judgements are less certain with change of state verbs than with change of location ones. Thus, *avere* "have" with change of state verbs is not totally unacceptable.

(51) a. La temperatura e salita/?*ha salito improvvisamente

the temperature is risen/ has risen suddenly

"The temperature suddenly rose."

b. Le mele sono marcite/ ?hanno marcito al sole

the apples are rotted/ have rotted in the sun

"The apples rotted in the sun."

In addition, the syntactic behavior of change of state verbs is more variable in other languages (e.g., French, Dutch, and German). Sorace (2000) points out that inherently telic verbs such as die and be born are the steadiest in selecting be as indicated in the following examples. This is seen as an evidence for associating telicity with be selection.

(52) a. Ma fille est nee a cinq heures du matin (French)

My daughter is born at five hours of morning

"My daughter was born at five o'clock in the morning."

b. De leraar is plotseling gestorven (Dutch)

the teacher is suddenly died

"The teacher suddenly died."

c. Die Zwillinge sind im April geboren (German)

the twins are in April born

"The twins were born in April."

Likewise, verbs of indefinite change and verbs of appearance and happening typically choose *be* in Dutch and German.

(53) a. Haar baby is / *heeft deze maand enorm gegroeid (Dutch)

her baby is / has this month enormous grown

"Her baby has grown enormously this month."

b. Der Rauch ist in die Hohe gestiegen

the smoke is in the height risen

"The smoke rose."

Although change-of-state verbs have telic aspect, they are sensitive to contextual factors (e.g., *for*-adverbials) that coerce their aspect from telic to durative. In this case, they can display variation in auxiliary selection as shown in the following example from van Hout (1993, p.7).

(54) De temperatuur is / heeft 3 uurlang gestegen, maar is toen weer gezakt.
The temperature is / has 3 hours risen, but is then again dropped
"The temperature rose for three hours but then dropped again."

Although the telic reading is more common, these verbs allow an atelic reading as well. Thus, these verbs can be ambiguous between telic and atelic interpretation since they allow both auxiliaries.

In French, the class of change of state verbs is not consistent and shows a variable behavior. Verbs that are inherently telic such as *mourir* "die", *naître* "be born", *devenir* "become" and *deceder* "die/pass away" constantly select *être* "be". However, verbs that express indefinite change regularly select *avoir* "have", which contradicts with their Italian and Dutch counterparts' behavior.

All in all, change-of-state verbs vary in their degree of telicity. The main feature that distinguishes this class is "inferable, rather than overtly expressed, telicity" (p.867). Change of state verbs are distinguished from change of location ones in that they show more inconsistency both within individual languages and across languages (p.867). Native speakers' intuition fluctuates more with change of state verbs than with their change of location counterparts. Namely, native speakers do not strongly avoid using have with many of change of state verbs.

7.3 Continuation-of-a-Preexisting State

There are two classes along the hierarchy that are considered statives. Both are nondynamic but differ in their degree of stativity. The first class indicates a continuation of a preexisting state (e.g*., stay, remain, last, survive)*. This class is nondynamic, yet "these verbs still have an implicit change component in their semantics, and thus entail an implicit state" (p.867). It involves "the negation of change" (p.867). Like change-of-state verbs, continuation-of-state verbs denote indefinite change and imply "an inferable state, which is however not the final stage of the event, but rather the implicit point of departure of the action whose continuation is described" (p.867). Continuation-of-condition verbs prefer *essere* "be" in Italian, yet they can be found with *avere* "have", and specifically with agentive subjects as in (55).

(55) a. Ancora una volta sono / ?ho rimasto solo
again one time am / have remained alone
"Once again I remained alone."

b. La guerra e / ?ha durato a lungo
the war is / has lasted for long
"The war lasted a long time."

c. Il presidente e / ha durato in carica due anni
the president is / has lasted in post two years
"The president lasted in post for two years."

From the examples above, it is obvious that agentivity of the subject is a major factor affecting the class of continuation-of-state verbs. The auxiliary *avere* is more suitable when the subject is agentive as in (55c). The class of continuation of state prefers

avoir in French; however, continuation of state verbs display variation in Dutch and in German. See Sorace (2000, p.868) for more details.

The verb *remain* is the only verb that diverges from the expected behavior of this class. It selects *be* across languages. Just like other continuation of state verbs, the verb *remain* implies the negation of change of location/state which is the main distinguishing feature that separates this class from change of location and change of state verbs.

7.4 Existence-of-State Verbs

Stative verbs show the most variable behavior among the classes of the hierarchy. They can be easily distinguished from continuation of state verbs in that they "imply no change component at all" (p.869). They consist of verbs of concrete state such as (*be, exist, belong*), positional verbs such as (*sit, lie,* ...etc.), and verbs of abstract or psychological states such as (*seem, suffice, please*). The notion of causation is not applicable to verbs in this class, and thus they are not externally or internally caused. Existence of state verbs prefer to take the auxiliary *essere* "be" in Italian as in (56).

(56) I dinosauri sono esistiti / ??hanno esistito 65 milioni di anni fa.
the dinosaurs are existed / have existed 65 millions of years ago
"The dinosaurs existed 65 million years ago."

However, just like continuation-of-state verbs, they also show alternation in auxiliary selection as illustrated in (57).

(57) Una lunghissima vita avrebbe appena bastato ad appagare il mio cuore.
a very long life would have just sufficed to satisfy my heart
"A very long life would have just sufficed to satisfy my heart."

In French, the class of verbs of existence always selects auxiliary *avoir*. In German, most of these verbs select *haben*; nevertheless, some verbs present variation in their auxiliary selection. Dutch displays some fluctuation in auxiliary selection within this class. The majority of positional verbs and concrete state verbs select *hebben* "have", while the verb *blijken* "seem" selects *zijin* "be". A notable exception in German and Dutch is the verb *be* itself as illustrated in (58). In Dutch, the verb *zijn* selects *zijn* as its auxiliary and not *hebben*, although Lieber & Baayen (1997, p. 815) argue that there is variation in certain Dutch dialects regrading auxiliary selection with *zijn*.

(58) a. Peter ist lange Zeit in Ausland gewesen. (German)
Peter is long time in abroad been
"Peter was abroad for a long time."

b. Anne is deze winter in Australie geweest. (Dutch)
Anne is this winter in Australia been
"Anne was in Australia last winter."

In short, verbs that indicate transition or state can be organized in a hierarchy of verb classes: change-of-location verbs which are inherently telic, change-of-state verbs, verbs that implicitly denote a negation of change, and lastly verbs of existence. These verbs are ordered according to "their decreasing degree of aspectual specification (from strongly telic to stative)" (p.870). The extent of intra-linguistical and inter-linguistical variation displayed by these verb classes escalates according to their place on the Sorace's continuum. The variation is slight in the case of change-of-location verbs and more notable in the case of the verbs of continuation and existence. Thus, verbs in the stative range of the hierarchy express more variation (i.e., may allow both auxiliaries) and

thus are considered more aspectually underspecified. It should be noted that the gradience analysis does not indicate that all languages clearly divide all verb categories on the hierarchy: Some languages might mix these categories or maintain finer distinctions within categories. The main assumption is that intermediate verbs will show more variation, and this is actually well attested through the data used in Sorace (2000).

7.5 Uncontrolled Process

Uncontrolled process intransitives involve verbs indicating nonvolitional processes, such as "uncontrolled action, involuntary bodily function, and emission (of substance/light/sound/smell)" (Sorace, 2000, p.877), and weather verbs. Uncontrolled process verbs denote stative/nondynamic activities. They represent a low level of volitionality and a great deal of subject affectedness. Furthermore, they are sensitive to the animacy of the subject. Thus, they favor have with agentive subjects. For instance, in Italian they show preference of *avere* "have" over *essere* "be" when the subject is agentive as in (59).

(59) Paolo ha tentennato/*e tentennato a lungo prima di decidersi
Paolo has wavered/is wavered for long before of decide.self
"Paolo wavered for a long time before he made up his mind."

An indication of the role of agentivity can be seen in the case of involuntary bodily functions (e.g.: *cough, sweat, sneeze, vomit*). These verbs can be interpreted as indicating volitionality when combined with agent-oriented adverbs as illustrated in (60).

(60) Mario ha tossito apposta per attirare l'attenzione.
Mario has coughed on purpose to attract the attention
"Mario coughed on purpose to attract attention."

Verbs of emission express the lowest level of agentivity and the highest subject affectedness. They typically take inanimate subjects. They take have in French, Dutch, and German, whereas they exhibit variation in Italian, as indicated below.

(61) a. Il telefono ha/e squillato.
the telephone has/is rung
"The telephone rang."

b. L'eco ha/e risuonato nella caverna
the echo has/is resounded in the cave
"The echo resounded in the cave."

c. II tuono ha/e rimbombato
the thunder has/is rumbled
"The thunder rumbled."

d. La campana ha/?e rintoccata
the bell has/is tolled
"The bell tolled."

Similarly, weather verbs in Italian fluctuate freely in their auxiliary selection: they allow both *essere* and *avere*. However, if the final goal of the event is mentioned (i.e., a PP), they can only take *essere* as shown in (62).

(62) mi e'/*ha piovuto sulla testa
to-me is/has rained on the head
"It rained over my head."

Furthermore, Sorace argues that only a small group of weather verbs actually accept both auxiliaries in the absence of a PP, while other verbs (e.g.: *tuonare* "thunder" and *lampeggiare* "flash") favor *avere.*

(63) a. Ha/?e tuonato molto durante il temporale
has/is-3SG thundered a lot during the storm
"It thundered a lot during the storm."

b. Ha/?e lampeggiato all'improvviso
has/is-3SG flashed lightning suddenly
"It flashed lighting suddenly."

The explanation of this behavior is because the simple weather verbs can also be analyzed as verbs of change of location (of a substance), whereas *tuonare* "thunder" and *lampeggiare* "flash" cannot. However, since *tuonare* is a verb of sound emission and *lampeggiare* is a verb of light emission, they might be interpreted as denoting a "directional" emission of sound just like verbs of sound emission in English. In this case, *tuonare* and *lampeggiare* may take *essere*.

(64) ?Ci e tuonato/lampeggiato sopra
to-us is thundered/flashed lightning over
"It thundered/flashed over us."

7.6 Controlled Motional Processes

Verbs of manner of motion involve "a nondirected displacement of their single argument" (p.875). The Agent of this class is affected more than the Agent of nonmotional activities. This is because it is typically both an Agent and an experiencer of a change of location. This class generally chooses *have* in Italian, Dutch, and French.

Yet, native speaker judgement is less sure with this class than with nonmotional process one.

(65) a. Gli atleti svedesi hanno corso/ ?sono corsi alle Olimpiadi (Italian)
the athletes swedish have run/ are run at.the Olympics
"The Swedish athletes ran at the Olympic Games."

b. De zwerver heeft/ ?is overal gelopen (Dutch)
the vagabond has/ is overall run
"The vagabond ran all over the place."

c. Marie a nage/ ?est nagee tout l'apres-midi (French)
Marie has swum/ is swum all the afternoon
"Marie swam the whole afternoon."

Conversely, a big number of verbs in this class pick *sein* "be" in German.

(66) Uschi *hat / ist den ganzen Tag gerannt/ gelaufen/ geschwommen
Uschi has/is the whole day run/ walked/ swum
"Uschi ran/walked/swam the whole afternoon."

A distinguishing feature of verbs in this group is that a structural change like the presence of a directional phrase or a PP can affect the aspectual interpretation. For instance, in Dutch all verbs of manner shift from *hebben* to *zijn* when they appear in a sentence that includes a directional phrase.

(67) a. De bal heeft/*is gerold (Dutch)
the ball has / is rolled
"The ball rolled."

b. De bal is/*heeft naar beneden gerold

the ball is/ has to down rolled

"The ball rolled downstairs."

On the other hand, in Italian only a small subgroup of manner verbs constantly switch auxiliary. For example, *correre* "run" takes part in the auxiliary shift, while *nuotare* "swim" does not. Furthermore, native speakers' choice of *avere* is not firm. See Sorace (2000, p.875-876) for more details. In French, the auxiliary remains *avoir* even when we shift the aspect from durative to telic as shown in the following example.

(68) a. Marie a couru/*est courue tres vite (French)

Marie has run/ is run very fast

"Marie ran very fast."

b. Marie a couru/*est courue jusqu'a la maison

Marie has run/ is run as far as the house

"Marie ran home."

In fact, "the agentivity of the subject" (p.876) affects auxiliary selection in this class. This is well presented in Italian. If the subject is nonagentive as in (69), they favor the auxiliary *essere*.

(69) a. E corsa/?ha corso voce che Maria si sposa

is run/ has run rumor that Maria self-marries

"The rumor spread that Maria is getting married."

b. E saltato fuori/?ha saltato fuori che i magistrati erano corrotti

is jumped out/ has jumped out that the magistrates were corrupted

"It turned out that the magistrates were corrupted."

Additionally, the same verb selects one auxiliary or the other depending on whether the subject is agentive or not.

(70) a. Il pilota ha/?e atterrato sulla pista di emergenza
the pilot has/is landed on the runway of emergency
"The pilot landed on the emergency runway."

b. L'aereo e/?ha atterrato sulla pista di emergenza
the plane is/has landed on the runway of emergency
"The plane landed on the emergency runway."

To conclude this section, verbs of manner of motion show irregular behavior across languages. Moreover, syntactically they are more readily affected by aspectual features of the context.

7.7 Controlled Nonmotional Processes

This class denotes "nonmotional, normally agentive processes such as (*play, work, talk,* etc.)" (p.874). It is considered the most invariable among the three process verb classes. The entity controlling the process is not typically affected. The verbs in this class select have in Italian, French, Dutch, and German. This is indicative of their unergative status.

(71) a. I colleghi hanno chiaccherato tutto il pomeriggio. (Italian)
the colleagues have chatted whole the afternoon
"My colleagues chatted the whole afternoon."

b. Les policiers ont travaille toute la nuit. (French)
The policemen have worked whole the night
"The policemen worked all night."

c. De trompettist heeft met bolle wangen geblazen. (Dutch)

the trumpeter has with puffed-out cheeks blown

"The trumpeter blew with puffed-out cheeks."

d. Kurt hat den ganzen Sonntag gearbeitet. (German)

Kurt has the whole Sunday worked

"Kurt worked all day Sunday."

These verbs are agentive in their basic meaning. Yet, they can take nonagentive subjects as well. The absence of agentivity does not impact the auxiliary choice; however, some native speakers of Italian do not completely decide against the use of auxiliary essere when the subject is nonagentive. The nonmotional controlled process verbs are unergative and also unaffected by the characteristics of the predicate. Therefore, the auxiliary choice does not change in the presence of an adverbial phrase that bounds the action as indicated in (71).

(72) I poliziotti hanno lavorato fino all'alba.

the policemen have worked until the dawn

"The policemen worked until dawn."

In essence, verbs denoting controlled nonmotional processes show steady syntactic behavior i.e., they choose *have* consistently across languages.

To reiterate, in the four Western European languages investigated in Sorace's work, auxiliary selection with process verbs exhibits similar systematic variation. Nonmotional process is the most decisive in auxiliary have selection, verbs denoting motional activities show more variability, and finally verbs of uncontrolled processes are

the least settled in their selection. In the next chapter, I examine the behavior of telic verbs in Arabic.

CHAPTER 3

TELIC INTRANSITIVES

1 Introduction

In this chapter, I focus on the two telic verb classes included in the Split Intransitivity Hierarchy i.e., change-of-location verbs and change-of-state ones and study their behavior in Arabic. The main point of this chapter is to determine where Arabic change-of-location and change-of-state verbs fall along the durative/telic continuum. This chapter is structured as follows: Section 2 introduces telicity and discusses the interaction between telicity and agentivity, the two properties that have led to distinguishing the multiple SIH classes. Section 3 delves into Baker's approach to split intransitivity in English. In Section 4, the SIH across languages is presented. Section 5 talks about Arabic change-of-location verbs. In Section 6, Arabic change-of-state verbs are introduced. Section 7 discusses the interplay between the outer aspect and the inner aspect is discussed. The conclusion is reported in Section 8.

As far as I know, no paper has discussed the gradience of aspectual features (telicity, stativity, and durativity) in Arabic intransitives. I examine the SIH verbs in Arabic and test the criteria that distinguish verbs with durative aspect from those with telic aspect.

2 Telicity

Perlmutter (1978) and Burzio (1986) distinguish two classes of intransitives: unergatives and unaccusatives. Unergatives assign an agent theta role to their subjects that are typically animate, while the subject of unaccusatives bear a theme theta role and could be an animate or inanimate. Many scholars argue that the distinction between

unaccusatives and unergatives can be characterized aspectually (Dowty, 1991; Tenny, 1987; Zaenen, 1988; Abraham, 1990; and van Gelderen, 2018 among others). For example, Dowty (1991) classifies unergatives as atelic and unaccusatives as telic. Tenny (1987, p. 264) describes unergatives and unaccusatives as "non-delimited" and "delimited" respectively. Furthermore, Zaenen (1988) uses a tripartite distinction in Dutch. Besides the *be/have* distinction (telic vs. atelic), he adds a control feature represented in the light verb/sub-predicate DO as indicate in Figure 3. van Gelderen (2018) sees the distinction as aspectual too: "Typical unergatives involve willed, volitional, controlled acts, i.e., with an Agent central and a non-telic, durative aspect; typical unaccusatives involve the change of location/state of the Theme" (p.28).

Figure 3
Intransitives in Dutch (van Gelderen, 2018, p.28)

	BE (atelic)	BECOME (telic)
DO (durative, Agent)	telephone	arrive
-DO (non-durative)	stink	die

As stated before, intransitives' susceptibility to uneven aspectual classifications is encapsulated in the SIH. It is important to clarify the main lexical semantic description of verbs of transition and state. Sorace states that: "The lexical semantic representation of transition and state verbs is defined by two dimensions: (a) the extent to which the verb represents a change, or its degree of dynamicity; (b) if it represents a change, the degree of telicity (DELIMITEDNESS, Tenny 1994) expressed by the change" (p. 863). To Sorace, causation, and therefore agentivity, are secondary determinants and their influence on auxiliary selection is oppositely symmetrical to the verbs' telicity.

The notion of telicity plays a significant role in determining unaccusativity/unergativity (Dowty, 1991, Hoekstra, 1984, van Valin, 1990, Zaenen 1993, among others). In this section, I introduce telicity and discuss some diagnostics used in the literature to predict telicity. The term "*telic*" was first introduced by Garey (1957). It is derived from the Ancient Greek term *telos* which means "end". Telicity addresses whether a situation has a terminal point or not (Comrie, 1976, p.44). Comrie describes the difference between a telic and atelic situation as follows:

> If a sentence referring to this situation in a form with imperfective meaning (such as the English Progressive) implies the sentence referring to the same situation in a form with perfective meaning (such as the English Perfect), then the situation is atelic; otherwise it is telic. Thus from *John is singing* one can deduce John has sung, but from *John is making a chair* one cannot deduce John has made a chair. Thus a telic situation is one that involves a process that leads up to a well-defined terminal point, beyond which the process cannot continue. (Comrie, 1976, pp. 44-45)

Tenny (1994) uses another terminology to refer to telicity i.e. *delimitedness.* Tenny defines delimitedness as a "property of an event's having a distinct, definite and inherent endpoint in time" (p.4). In addition, Comrie distinguishes between *telic situations* and *telic verbs*. In particular, verbs that denote telic situations are not necessarily telic and verbs that indicate atelic situations are not necessarily atelic as well. Therefore, combining the telic/atelic distinction with the perfective/imperfective opposition significantly helps restrict the "semantic range" (p.46) of the telic verb.

Certain diagnostics have been used to distinguish telic predicates from atelic ones. Vendler (1967) and Dowty (1979) state that *in*-adverbials modify only telic verbs whereas *for*-adverbials modify only atelic ones. For example, in English adverbials (e.g., *for hours*, *for seconds*, ...etc.) modify atelic unergative verbs, while adverbials (e.g., *in hours, in seconds*, …etc.) attach to telic unaccusative verbs. In other words, the telic interpretation is indicative of the unaccusative verbs, while the atelic interpretation is associated with the unergative ones. Thus, the notion of telicity is essential in determining the status of verbs as unaccusative or unergative.

In English, for instance, inherently telic verbs (e.g., change-of-location verbs and some change-of-state verbs) allow only *in*-adverbials such as (*arrive, die, break*, ...etc.). Yet, various change-of-state verbs allow *for*-adverbials such as (*widen, harden, coo*l, …etc.) and such verbs have been described in the literature as degree achievement verbs (Dowty, 1979). Degree achievement verbs can be distinguished from other change-of-state verbs by the following characteristic: They denote a change but do not state explicitly that an end state is achieved. For instance, the sentence *The road widens* entails that the road becomes wider, but it does not necessarily mean that it becomes wide. Levin & Rappaport-Hovav (1995, p.172) call such verbs *atelic verbs of change of state* because they are not necessarily telic. In other words, this class is distinguished by its *variable telicity*. Furthermore, Levin & Rappaport-Hovav mention another atelic verb class i.e., *atelic verbs of inherently directed motion.* This class consists of verbs such as (*rise, descend*, and *fall*). These verbs express motion in a certain direction but without clearly implying an achievement of an end point. Therefore, these verbs are not overtly telic. Both *atelic verbs of change of state* and *atelic verbs of inherently directed motion* show

unaccusative behavior. However, because they are not necessarily indicating an end point, they are compatible with *for*-adverbials too as shown in the following examples from Levin & Rappaport-Hovav (1995, p.173).

(1) The soup cooled in/for half an hour.

(2) The plane descended in/for fifteen minutes.

(3) The temperature rose steadily in/for three hours.

Verbs of inherently directed motion are unaccusative across many languages. In the literature, we come across several pieces of evidence of the unaccusative status of these verbs such as: the auxiliary selection, the resultative constructions, and the X's way constructions. For example, in Italian these verbs select the auxiliary *essere* "be" (Levin & Rappaport-Hovav, 1995, p.173).

(4) *e caduto* "has fallen"

(5) *e disceso* "has descended"

Furthermore, verbs of inherently directed motion are incompatible with the resultative constructions which supports their classification as unaccusative verbs. They are also incompatible with the X's way construction which is another characteristic indicating their unaccusative status as illustrated in the following examples (Levin & Rappaport-Hovav, 1995, p.173).

(6) *She rose her way to the presidency.

(7) *The oil rose its way to the surface.

In addition, they are incompatible with cognate objects.

(8) *The bird soared a graceful soar.

(9) *She rose a wobbly rise.

Similarly, Levin & Rappaport-Hovav mention evidence showing the unaccusativity of the atelic verbs of change of state i.e., their ability to appear in the causative form as in (10) and (11).

(10) The soup cooled. / I cooled the soup.

(11) The lights dimmed. / I dimmed the lights.

The atelic verbs of change of state are not compatible with the X's way construction as shown in (12) and (13). This feature is also in line with their classification as unaccusative verbs.

(12) *The soup cooled its way to room temperature.

(13) *The days lengthen their way to summer.

3 The Interaction between Telicity and Agentivity along the SIH

Properties that influence the SIH include telicity and agentivity. The SIH associates unergativity with agentivity, and unaccusativity with telicity, placing inherently telic verbs at the telic end, durative verbs of agentive activities at the agentive one, and verbs that are neither telic nor agentive in the middle. The roles played by agentivity and telicity are not the same but asymmetric: one property (i.e., telicity) is described as the primary element as it is what differentiates one extreme of the hierarchy from the other extreme. In other words, telicity encompasses all classes in the hierarchy, ranging from verbs with the highest telicity (change of location verbs) to verbs with the lowest telicity (non-motional process verbs). The other property (i.e. agentivity) is not considered as equally important as telicity. Its domain of influence is restricted to the unergative portion of the hierarchy and does not include all classes of the hierarchy. Unlike telicity, agentivity only reaches a certain area of the scale and not all areas of the

scale. As a result of this asymmetry, the most gradient verbs (those that fluctuate in their telicity and typically located in the middle of the hierarchy) are the least affected in the SIH because they are underspecified. They are the least unergative and the least unaccusative because they escape the two opposites. Even though telicity is supposed to affect the entire scale, the middle part of the hierarchy is populated by stative verbs which are by their very nature atelic and have "a zero-degree" telicity (Giancarli, 2015, p.85).

4 Change-of-Location Verbs

As stated in Chapter 2, this class denotes inherently telic verbs. This class is placed at the very top of the hierarchy. Verbs in this class are considered "core unaccusatives". They describe a telic change of location. Sorace (2000) distinguishes verbs in this class from other subclasses of intransitives by stating that they "have the highest degree in their dynamicity and telicity" (p.863). Change-of-location verbs exhibit consistency in their telicity across languages. For instance, this class selects the auxiliary *be* across languages, a characteristic that supports its telicity. The main feature of change-of-location subclass is that verbs in this class are inherently telic regardless of the agentivity of the subject or the aspectual properties added by the context.

5 Change-of-State Verbs

The second class of verbs in Sorace's hierarchy is verbs that indicate a change of state. Some verbs in this class are inherently telic such as (*die*, *disappear*, *be born*), while the majority of verbs in this class denote "indefinite change" such as: verbs of directed motion (e.g.: *rise*, *descend*), and internally caused verbs (e.g.: *become, wilt, bloom, decay*) that denote a change but do not reach an endpoint. Since most verbs in this group, except (*die*, *disappear*, *be born*) express "indefinite change of state" (p.65), their degree

of telicity is lower than the change-of-location verbs. In addition, the syntactic behavior of change-of-state verbs is less consistent than the change-of-location verbs across languages.

In this section, I discuss the behavior of English change-of-state verbs. In English they normally do not have expletives, as in (14a). Yet, they alternate as causatives, as in (15a), whereas the other unaccusatives have expletives, as in (14b), but do not alternate, as in (15b).

(14) a. *There broke a bottle.

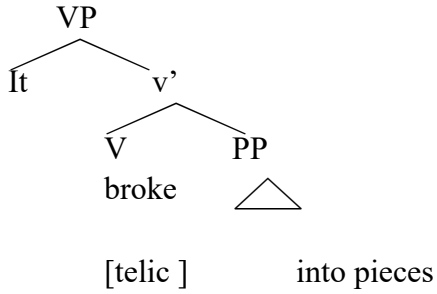
b. There arrived a bus.

(15) a. The storm broke the bottle.

b. *The bus driver arrived the bus. (van Gelderen, 2018, p.32)

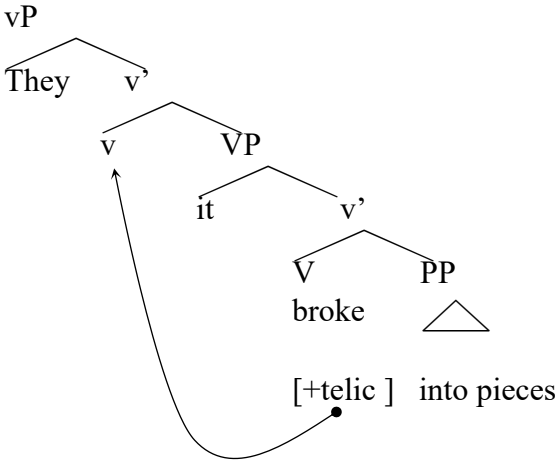
The structure of the unaccusatives is indicated in (16) with a basic telic aspect and an optional resultative PP (van Gelderen, 2018, p.34).

(16)



Unaccusatives in English can add a Causer because their inner aspect is telic. Adding a Causer to (16) gives tree (17) for (18) (van Gelderen, 2018, p.36).

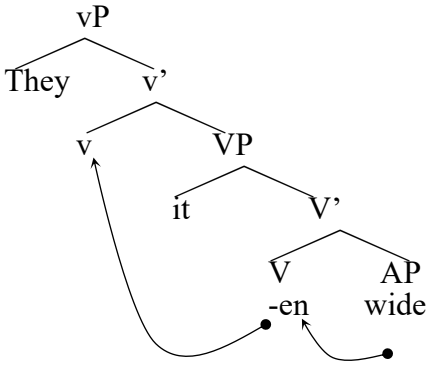
(17)



(18) They broke it into two pieces.

van Gelderen (2018) states that unaccusatives can be causativized because they are VPs. In contrast, unergatives cannot be causativized because they are vPs. Thus, a sentence like *They laughed the child* is ungrammatical. In English, many alternating change-of-state verbs are derived from adjectives, (e.g., *redden, thicken*, *widen*, *open*, and *brown*). This is because adjectives express Results and they get incorporated from the AP to the V. This is illustrated in the tree (19).

(19)



The change of state verb in (20a) is called inchoative or anticausative. When alternating, it is called "causative" as in (20b) (van Gelderen, 2018, p.37).

(20) a. The ball rolled down the hill.

Theme

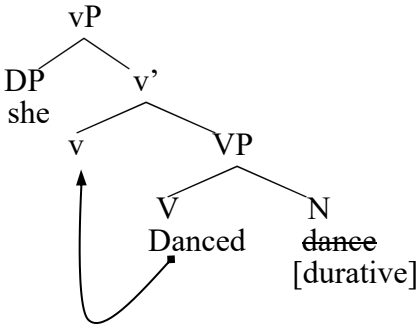
b. I rolled the ball down the hill.

Agent Theme

As shown in the above examples, unaccusatives can alternate and be causative, yet some unaccusatives do not generally have this property. There are several reasons that explain why certain unaccusative verbs do not alternate. Levin & Rappaport Hovav (1995) notes that there is a subset of change-of-state verbs that are internally caused and thus they cannot be causativized externally. This subset includes verbs such as (*arrive*, *blossom*, and *bloom*). These verbs are incompatible with Causer addition and thus they can have an expletive *there*. Crosslinguistically internally caused verbs are distinguished from externally caused verbs. For instance, Haspelmath (1993) suggests a split between events that occur spontaneously and event that need an external causer. van Gelderen (2018) mentions another reason why some of these verbs do not alternate: If there is an alternative for the causative, it blocks the use of the causative version of the verb (e.g.: *drop* is the causative alternative of *fall*; as a result, the causative *fall* is not allowed) (p.37).

In the above section I discussed the structure of unaccusatives, the basic structure of unergatives is shown in (21). Unaccusatives are typically denominal. Hale & Keyser (2002, p. 63) point out that "there is a VP with the N incorporated into the V and moving to v to merge with an Agent DP" (van Gelderen, 2017, p.67). The unergatives come with a basic durative aspect. Unlike unaccusatives, they don't add a Causer because they are vPs. They can only add a theme.

(21)

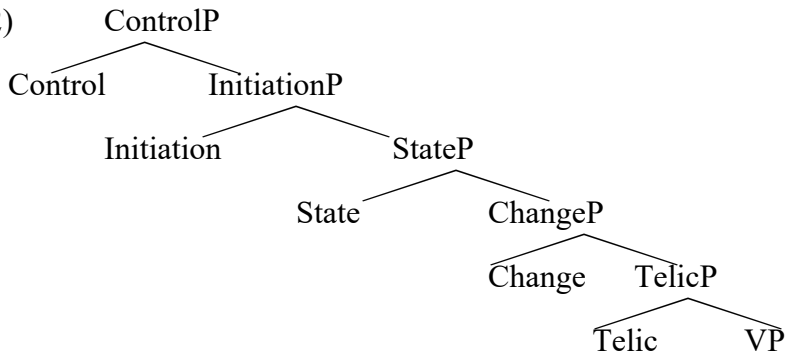


(van Gelderen, 2017, p.67)

6 Baker's Account of Split Intransitivity in English

Baker (2018) introduces a hierarchy of the features [±control], [±initiation], [±state], [±change] and [±telic] that accounts for split intransitivity in English. He claims that it is a better analysis of split intransitivity in English than the Unaccusative Hypothesis. This hierarchy explains the behavior of English intransitives through distinguishing various classes. Even though the Unaccusative Hypothesis divides intransitives to into either unaccusatives or unergatives, some intransitives can alternate between the two types (Rosen, 1984, p.66). Baker argues that the binary grouping of intransitives is oversimplified and that unaccusativity diagnostics for English can be used to identify multiple new classes. Hence, he uses a hierarchical system of multiple functional heads to sketch these classes' behavior as indicated in (22).

(22)



(Baker, 2018, p. 558)

Intransitives can merge their arguments at various layers of the structure according to specific features. For instance, a [+control] verb merges its argument in Spec,ControlP, a [+initiation] verb merges its argument in Spec,InitiationP, and so on. Moreover, it is possible for a particular argument to get merged in multiple levels within this hierarchy. Multiple intransitives' behaviors appear due to susceptibility of specific constructions to specific features on the functional heads. Each functional head has to be included in representing the constructions, and each head has dual features representing their categories: [±control] on Control, [±initiation] on Initiation, [±state] on State, [±change] on Change, and [±telic] on Telic. Each feature must carry either a positive or a negative value. When a head X carries the matching feature [+x] (e.g. [+control] on Control), an argument must be merged in the specifier position. However, when X carries [–x], there is no argument merged. Arguments are always merged in clausal constructions. In contrast, arguments may be missing in nominalized or participial constructions. Additionally, verbal root V get incorporated into each functional head through head movement, leading to a series of heads carrying all these features.

Baker's functional hierarchy is presented as an alternative to the Unaccusative Hypothesis. Moreover, it gives a description of split intransitivity that has "a semantic basis directly reflected in syntax" (p.587). Baker's complex-head structure has more advantages over the Unaccusative Hypothesis via connecting split intransitivity to syntactic argument structure. Furthermore, the addition of various head levels can account for multiple classes of intransitives. Each head included in the hierarchy represents the behavior of differ classes of intransitives.

This approach to split intransitivity could be seen as semantically-based one as it includes semantic labels representing each head. Yet it has these semantic properties encoded in the structure. The telic head tells whether or not the verb in question expresses a telic event. Baker represents it as follows.

(23) [+telic]: [e & culminate(e)]

The change, state, and initiation heads are defined based on semantic labels established by Rappaport Hovav & Levin (1998) as in (24) (p.560).

(24) [+change]: [BECOME [x ⟨*STATE*⟩]] or [BECOME [x ⟨*PLACE*⟩]]

[+state]: [x ⟨*STATE*⟩]

[+initiation]: [x ACT ⟨*MANNER*⟩]

Initiation naturally includes causation. Baker identifies *causation* as a crucial element of all instances of ⟨*MANNER*⟩. It could be sometimes the sole component initiated by the verb's argument, (e.g.: change of location verbs). Causation is represented as in (25).

(25) [+initiation, +change]: [x ACTCAUSE [BECOME [x ⟨*PLACE*⟩]]

Initiation is different from volition or control in that a verb (e.g. *cough*) may denote an event that is initiated but not controlled by the subject. Hence, a Control head is added to the hierarchy which states that "x volitionally controls an event e if and only if: (i) x possesses a state of desire that e occurs, and (ii) e occurs (where desire(e) is an instance of ⟨*STATE*⟩" (Baker, 2018, p.560).

(26) [+control]: [[x desire(e)] & e]

Baker's approach is more of a constructivist approach in that it analyzes argument structure in relation to syntactic structure. Although he distinguishes multiple classes

following the lexicalist tradition, it also integrates the constructivist approach in that the classes are identified in connection with the syntactic structure i.e., the "semantic properties [are] encoded on functional heads" (p.561).

However, I prefer the SIH over Baker's approach because it has features from both approaches (i.e., the projectionist and the constructionist) and regards unaccusativity and unergativity as gradient notions.

7 The SIH across Languages

The significance of telicity as a standard by which intransitives are judged is agreed on by many scholars. For instance, Keller & Sorace (2003) emphasize the importance of this criterion by stating that: "telicity is the main factor that separates BE verbs from HAVE verbs" (p. 88). Similarly, many other linguists share the same opinion (cf. van Valin 1990; Tenny 1992; Borer 1994). Because telicity is seen as more important than agentivity, I will focus on the inner aspect (i.e., telicity, stativity, durativity) as the main property that distinguishes SIH classes in Arabic. Also, I will refer to agentivity once relevant.

The SIH gradience is attested in many diverse languages, including Basque, French, Catalan, Chinese, Croatian, Dutch, German, Irish, Italian, Japanese, Paduan, Sardinian, Spanish, Turkish. Also, it is confirmed in some sign languages (Sorace, 2015, p.26). The SIH in Arabic has not received attention in the literature. To the best of my knowledge, there is no study that has investigated the nature of aspectual features associated with SIH classes in Arabic. This dissertation seeks to investigate the nature of the lexical aspect that accompanies Arabic gradient intransitives. In this chapter, I investigate the behavior of change-of-location and change-of-state verbs in Modern

Standard Arabic and test the criteria that distinguish unergative/durative verbs from unaccusative/telic ones. I depend on split intransitivity characteristics proposed crosslinguistically to differentiate unergatives from unaccusatives. These characteristics were provided in Chapter 2 and repeated here in Table 3.1.

Table 3.1
Characteristics of Unergative and Unaccusative Verbs (van Gelderen, 2018, p.29)

Unergative (Agent argument)	Unaccusative (theme argument)
i. *Deliberately* is ok and the argument is human/animate	*Deliberately* is not ok argument can be +/-animate
j. A theme can be added	No theme can be added
k. V+er	*V+er
l. Imperative is ok	Imperative not ok
m. Prenominal past participle not ok	Prenominal past participle ok
n. Have + perfect participle	Be + perfect participle
o. Impersonal passive	*impersonal passive (Dutch)
p. Sentence focus SV (Italian, Hebrew)	Sentence focus VS (Italian, Hebrew)

8 Arabic Change-of-Location Verbs

The change-of-location verbs in Arabic are unaccusative i.e., their single argument is a theme and their aspect is telic. For example, the verb *wasʿala* "arrived" and *saqatʿa* "fell" are both change-of-location verbs. Therefore, they are incompatible with agent-oriented adverbs, e.g.: *ʕamdan* "deliberately" as in (27) and (28).

(27) *wasʿala Ahmad-un ʕamdan

arrive.PAST.3S.M Ahmad-NOM deliberately

"Ahmad deliberately arrived."

(28) *saqatˁa-t al-tˁifla-t-u mina al-ʔurdʒuħa-t-i ʕamdan

Fall.PAST-3S.F the-child-F.S-NOM off the-swing-F.S-GEN deliberately

"The child deliberately fell off the swing."

Another characteristic that shows their unaccusativity in Arabic is that they cannot be transitivized, i.e. no theme can be added to them because their sole argument is already a theme and their VP cannot take in another theme. Native speakers agree on the ungrammaticality of the following sentences.

(29) *wasˁala Ahmad-un Hind-an

arrive.PAST.3S.M Ahmad-NOM Hind-ACC

"Ahmad arrived Hind."

(30) *saqatˁa-t al-tˁifla-t-u ʔuxt-a-ha

Fall.PAST-3S.F the-child-F.S-NOM sister.F.S-ACC-3S.F.ACC

"The child made her sister fall."

Moreover, the use of imperative is not ok with Arabic change-of-location verbs as in (31) which is another indication that these verbs are unaccusative. Judgement drawn from native speakers of Arabic renders sentence (31) ungrammatical.

(31) *ʔusqutˁ bi-surʕa-t-in

Fall with-speed-F.S-GEN

"Fall quickly."

Telic predicates can be modified by an *in*-adverbial and this holds true for change-of-location verbs in Arabic. The verb *wasˁala* occurred 1,432 times in the corpus and was 30 times (2%) modified by *in*-adverbials. For example, the verb *wasˁala* "arrived" is compatible with *fi saʕa-t-in* "in an hour" as in (32) but not with *li-saʕa-t-in* "for an hour" as in (33).

(32) wasˁala Ahmad-u fi saʕa-t-in
arrive.PAST.3S.M Ahmad-NOM in hour-F.S-GEN
"Ahmad arrived in an hour."

(33) *wasˁala Ahmad-u li-saʕa-t-in
arrive.PAST.3S.M Ahmad-NOM for-hour-F.S-GEN
"Ahmad arrived for an hour."

To sum up, diagnostics suggest that change-of-location verbs in Arabic are core unaccusatives with a telic aspect. Verbs in this category passes the "unaccusative" diagnostics. Mainly, they don't accept agent-oriented adverbs. They can't add a theme. In addition, they cannot occur as imperatives.

9 Arabic Change-of-State Verbs

In this section, I give examples of change-of-state verbs and test the criteria that differentiate verbs with durative aspect from those with telic aspect. In Arabic, *nama* "grew" is an unaccusative change-of-state verb that takes a theme and denotes an "indefinite" change as in (34).

(34) nama-t ʔaʕadad-u al-muhajreen bi-surʕa-t-in
grow.PAST-3S.F number-NOM the-immigrants.GEN with-speed-F.S-GEN

"The number of immigrants grew fast."

Because this verb is unaccusative, it is incompatible with agentive adverbs. Native speakers find sentence (35) unacceptable.

(35) *nama-t al-fata-t-u ʕamdan

grow.PAST-3S.F the-girl-F.S-NOM deliberately

"The girl deliberately grew up."

Another characteristic that suggests that the change-of-state verbs in Arabic are unaccusative is that they can occur with *in*-adverbials as in (36). Native speakers do not approve of the use of *for*-adverbials as illustrated in (37).

(36) nama-t al-ʔaʃdʒar-u fi θalaθ-t-i ʕaʃr-a ʃahr-an

grow.PAST-3S.F. the-trees-NOM in three-F.S-GEN ten-ACC month-ACC

"The trees grew in thirteen months."

(37) *nama-t al-ʔaʃdʒar-u li-θalaθ-t-i ʕaʃr-a ʃahr-an

grow.PAST-3F.S the-trees-NOM for-three-F.S-GEN ten-ACC month-ACC

"The trees grew for thirteen months."

The search for the verb *nama* "grew" in the corpus yielded 28,381 instances. It occurred 2,076 times (7%) modified by the *in*-adverbial *fi*. Moreover, no theme can be added to these verbs as in (38).

(38) *nama-t al-fata-t-u al-ʔaʃdʒar-a

grow.PAST-3S.F. the-girl-F.S-NOM the-trees-ACC

"The girl grew the trees."

Split intransitivity characteristics above suggest the verb *nama* “grew” is unaccusative/telic. This verb semantically denotes a “gradual approximation” to an end point. With a verb like *nama* “grew”, it’s hard to measure the degree of change or whether or not the verb reaches a telic endpoint. The same characteristics also hold true for other Arabic change-of-state verbs (e.g.: *irtafaʕa* “rose”, *taʔakala* “decayed”, and *azhara* “blossomed”). Since most of the change-of-state verbs denote indefinite change, they do not encode “delimitedness” and this is can be tested through their readiness to combine with structures that do not set limits as *badaʔa* “began” as (39) and (40).

(39) badaʔa moʕadal-u al-intiħar-i bi-al-ʔrtifaʕ-i
begin.PAST.3S.M. rate-NOM the-suicide-GEN with-the-rise-GEN
“The suicide rate began to rise.”

(40) badaʔa-t al-ʕidˁam-u bi-at-taʔakul-i
begin.PAST-3S.F. the-bones.plural-NOM with-the-decay-GEN
“The bones began to decay.”

Change-of-state verbs denote a degree of change in the entity undergoing a specific event. They do not necessarily imply that a culmination point is reached which explains why they are placed below the change-of-location ones in the hierarchy i.e., they fluctuate in their degree of telicity. Yet, change-of-state verbs include a subset of inherently telic verbs. This subset in Arabic includes verbs like *maata* “died” and *ixtafa* “disappeared”. Just like other change-of-state verbs, they don’t allow agentive adverbs, no theme can be added to them, and cannot be in the imperative mood. Those properties verify the unaccusative status of this subset of change-of-state verbs. I assume that the

telicity of this subset is equal to that of the change-of-location verbs because both are inherently telic.

The verb *maata* "died" occurred 231 times in the corpus. The verb *ixtafa* "disappeared" occurred in the corpus 6,677 times and was modified by an *in*-adverbial 187 times (3%). These two verbs only allow *in*-adverbials to modify them as in (41). Native speakers do not accept sentence (42).

(41) maata al-radʒul-u fi daqaʔiq-a
die.PAST.3M.S the-man-NOM in minutes-GEN
"The man died in minutes."

(42) *ixtafa-t al-fata-t-u li-daqaʔiq-a
disappear.PAST-3F.S the-girl-F.S-NOM for-minutes-GEN
"The girl disappeared for minutes."

Because this subset is inherently telic, they explicitly express delimitedness. Thus, contrary to other change-of-state verbs, they are incompatible with predicates that don't indicate delimitedness (e.g.: *badaʔa* "began") as in (43) and (44). This suggests that this subset's telicity is stronger than the indefinite change-of-state verbs.

(43) *badaʔa al-radʒul-u bi-al-mout-i
begin.PAST.3S.M. the-man-NOM with-the-death-GEN
"The man began to die."

(44) *badaʔa al-radʒul-u bi-al-ʔxtifa-i
begin.PAST.3S.M. the-man-NOM with-the-disappearance-GEN
"The man began to disappear."

The change-of-state verbs also include verbs of appearing (e.g.: *dˤahara* "appeared") and verbs of happening (e.g.: *waqaʕa* "occurred" and *ħadaθa* "happened"). In Arabic they are all unaccusative/telic and incompatible with agent-oriented adverbs, imperatives, and theme augmentation. Since verbs of appearing and happening suggest that "an entity comes into existence" (Sorace, 2000, p.865), I assume that their telicity in is stronger than the indefinite change of state verbs. The verb *dˤahara* "appeared" occurred in the corpus 83,457 times, and was modified by an *in*-adverbial 52 times (0.06%) as in (45). Native speakers of Arabic consider the use of a *for*-adverbial with this verb unacceptable as shown in (46).

(45) dˤahara al-radʒul-u fi daqiqa-t-in
appear.PAST.3S.M. the-man-NOM in minute-F.S-GEN
"The man appeared in a minute."

(46) *dˤahara al-radʒul-u li-saʕa-t-in
appear.PAST.3S.M. the-man-NOM for-hour-F.S-GEN
"The man appeared for an hour."

The verb *waqaʕa* "occurred" appeared in the corpus 779 times. It accepts *in*-adverbials only as in (47). There were no instances of this verb with *for*-adverbials.

(47) waqaʕa-t al-muʃajara-t-u fi θawan-in
occur.PAST-3F.S the-fight-F.S-NOM in seconds-GEN
"The fight occurred in seconds."

In the same fashion, the verb *ħadaθa* "happened" occurred in the corpus 219,691 times and was modified by *in*-adverbials 17 times (0.008%) as in (48).

(48) ħadaθa-t muʕdʒiza-t-un fi saʕa-t-in

happen.PAST-3S.F miracle-F.S-NOM in hour-F.M-GEN

"A miracle happened in an hour."

Crosslinguistically, change-of-state verbs are more sensitive to the temporal modifiers of the context they appear in. These modifiers work as detelicizers that suppress the telic interpretation and provide a meaning that the final endpoint has not been attained. As a result, change-of-state verbs may be ambiguous between telic and atelic interpretation. In Arabic, native speakers prefer the atelic reading and pick *for*-adverbials with examples (49) and (50) but not *in*-adverbials.

(49) nama-t al-ʔaʃdʒar-u li-θalaθ-t-i ʕaʃr-a ʃahr-an θuma mata-t

grow.PAST-3S.F the-trees-NOM for-three-F.S-GEN ten-ACC month-ACC then died.PAST-3F.S

"The trees grew for thirteen months but then died."

(50) irtafaʕa-t daradʒat-u al-ħara-t-i li-θalaθ-i saʕa-at-in θuma inxafadha-t mudʒadadan

rose.PAST-3S.F degree-NOM the-temperature-F.S-GEN for-three-GEN hours-F.PL-GEN then dropped.PAST-3F.S again

"The temperature rose for three hours but then dropped again."

The verb *irtafaʕa* "rose" is also a directed motion verb just like (*rise*, *descend, ...etc.*) and can be coerced to allow the selection of durative temporal modifiers (i.e. *for*-adverbials) if the main purpose here is to compare "two different stages of the same event" (Sorace, 2000, p.872) without specifying a result state. Yet, the telic reading is not excluded and preferred in other contexts.

10 The Outer Aspect and Telic Verbs

Outer aspect is concerned with looking at an event from the outside (van Gelderen, 2018, p.19). The most well-known outer aspects are perfective and imperfective. Comrie (1976) distinguishes the two types as follows: "[T]he perfective looks at the situation from outside, without necessarily distinguishing any of the internal structure of the situation, whereas the imperfective looks at the situation from inside, and as such is crucially concerned with the internal structure of the situation" (p.4). More specifically, Comrie points out that in Arabic "the Perfective is interpreted with perfective and past meaning" (p.78) as in (51) "while the Imperfective is interpreted with imperfective and present meaning" as in (52).

(51) Jalasu ʕala 'l-babi.
they-sat-down.Pfv at the-door.
"They sat down at the door."

(52) ʔallahu ya-ʕlamu bi- ma ta-ʕmaluna
God he-know.Ipfv about what you-do.Ipfv.
"God knows what you are doing." Comrie (1976, p.78)

In addition, he argues that Arabic reflects combined tense/aspect oppositions because the imperfective can be used with past time reference unlike other languages (e.g., Russian) where the imperfective is always present tense. He states that: "Summarizing the uses of the Imperfective and Perfective we may say that the Perfective indicates both perfective meaning and past time reference, while the Imperfective indicates everything else (i.e., either imperfective meaning or relative non-past tense). The Arabic opposition Imperfective/Perfective incorporates both aspect and (relative) tense" (p.80).

Following Comrie's distinction, I will use the past tense to represent perfective aspect while present tense to represent imperfective aspect. The purpose here is to see if verb's inner aspect gets affected when we shift the outer aspect from perfective to imperfective. In the above examples I used the perfective form, while in the following ones I use imperfective aspect to see if there are some differences in the inner aspect. I use *in*-adverbials and *for*-adverbials to distinguish telic verbs from atelic ones. Grammaticality judgment was obtained from native speakers.

The following two sentences are acceptable to native speakers of Arabic. However, they prefer the use of *in*-adverbials with the imperfective form of the change-of-location verb *ya-asˁilu* "arrive" when there is a goal added to the sentence. This could be because a goal enhances the telicity of the event and allow the verb to combine with the temporal adverbial *fi saʕat-in*. The Arabic imperfective aspect gives a meaning that a terminal endpoint has not reached yet or that the event lacks boundedness. However, the addition of the goal "to the top" yields a telic reading and allows the verb to combine with the *in*-adverbial as in (54).

(53) ya-asˁilu al-rajul-u fi saʕat-in (*li-saʕat-in)
3S.M.IMPF-arrive the-man-NOM in hour-GEN (*for-hour-GEN)
"The man arrives in an hour."

(54) ya-asˁilu al-rajul-u ʔila al-qimmat-i fi saʕat-in (*li-saʕat-in)
3S.M.IMPF-arrive the-man-NOM to the-top-GEN in hour-GEN (*for-hour-GEN)
"The man reaches the top in an hour."

In the following examples, I test how the telic inner aspect of these verbs may react to different types of outer aspect and tenses. According to Comrie, Arabic can denote future tense and past tense of the Imperfective. Future tense is formed by attaching *sawfa* or the prefix *sa-* to the verb (e.g., *sawfa yaktubu/sa-yaktubu* "he will write") (p.81). The future tense of the imperfective *ya-asʕilu* "arrive" can be modified by an *in*-adverbial as in (55) and (56) which shows that this verb is inherently telic. The corpus search yielded 3 examples where the future tense was combined with *in*-adverbial. Native speakers do not accept the use of *for*-adverbials with the future tense of the imperfective *ya-asʕilu*.

(55) sawfa ya-asʕilu al-rajul-u fi saʔat-in (*li-saʔat-in)

Fut 3S.M.IMPF-arrive the-man-NOM in hour-GEN (*for-hour-GEN)

"The man will arrive in an hour."

(56) sawfa ya-asʕilu al-rajul-u ʔila al-qimmat-i fi saʔat-in (*li-saʔat-in)

3S.M.IMPF-arrive the-man-NOM to the-top-GEN in hour-GEN(*for-hour-GEN)

"The man reaches the top in an hour."

The Imperfective Past is formed by adding the Perfective of the verb "to be" which serves as an auxiliary to the Imperfective of the main verb, (e.g., *kana yaktubu* "he was writing, used to write"). The interaction between the Imperfective Past and the telicity of the verb *ya-asʕilu* does not prevent the verb from combining with an *in*-adverbial as in (57).

(57) kana ya-asʕilu fi saʔat-in (*li-saʔat-in)

was 3S.M.IMPF-arrive in hour-GEN (*for-hour-GEN)

"He was arriving in an hour."

Finally, the Past Perfect in Arabic is formed by combining the Perfective of "to be" and the Perfective of the main verb (e.g., *kana kataba* "he had written"). In the following example, native speakers only accept the use of the *in*-adverbial with the Past Perfect.

(58) kana wasˤla fi saʕat-in (*li-saʕat-in)
was arrive.PAST.3S.M in hour-GEN (*for-hour-GEN)
"He had arrived in an hour."

Overall, based on the examples above it is obvious that the telicity of the verb remains stable even when we use different outer aspects, i.e., when we change the outer aspect from perfective into imperfective.

11 Conclusion

In this chapter, I explored two classes of intransitives in Arabic: change-of-location verbs and change-of-state verbs. The purpose is to find out where those two verb classes fall on the durative/telic spectrum. Here is a recap of this chapter's most important findings. Change-of-location verbs in Arabic are the strongest in their telicity. They are core unaccusative/telic. They pass all the unaccusative tests that emphasize their telicity. Furthermore, change-of-state ones show variable behavior. Most of the verbs in this class express indefinite change. Some verbs in this class indicate that a final endpoint has been reached while others don't. Additionally, this class encompasses a small subset of inherently telic verbs such as: *maata* "died" and *ixtafa* "disappeared". Therefore, even though verbs in this class are considered telic and pass the diagnostics, their telicity may fluctuate from one subset to another.

In the next chapter, I examine the behavior of stative verb classes: continuation of state and existence of state ones.

CHAPTER 4

STATIVE TRANSITIVES

1 Introduction

In this chapter I investigate the kind of aspect associated with verbs that typically denote states. Sorace (2000) divides stative verbs into two separate classes: verbs of continuation of a preexisting state (e.g.: *remain, last, stay, and survive*) which covertly incorporate a change component in their semantics, and verbs of simple existence which do not incorporate a change component at all (e.g.: *be, exist, belong*, etc.).

This chapter is organized as follows. In Section 2, stative verbs are introduced, followed by a discussion of the difference between statives and non-statives. Section 3 is devoted to the reanalysis of unaccusatives as copulas. Section 4 examines the behavior of Arabic continuation of existence verbs and tests their compatibility with the characteristics that distinguish unergatives/duratives from unaccusatives/telic. In Section 5 the existing literature on verbs of existence is presented. Section 6 explores the type of aspect associated with Arabic existence of state verbs. Section 7 discusses the interaction between outer aspect and statives. The conclusion is reported in Section 8.

2 Stative Verbs

Stative verbs have a Theme as their sole argument and may add an Experiencer. They occupy the middle range of the SIH. They express lower degrees of telicity and agentivity than core unergatives/unaccusatives. In this section, I examine the division between statives and non-statives as it has been presented in the linguistic literature.

The dichotomy between statives and non-statives has been discussed by many scholars (e.g.: Lakoff, 1966; Comrie, 1976; Dowty, 1979; Kearns, 1991; among others).

There are some criteria that have been employed to distinguish statives from non-statives. The first one is the notion of change (Dowty, 1979). Statives do not indicate a change, while non-statives do. Kearns (1991, p.116) states that "The general observation is that states have no essential changes or transitions, from which it follows that they are continuous and are not essentially bounded". Dowty discusses a second criterion: Only statives can be considered true at an interval or a single moment. However, this criterion is not applicable in the case of interval statives (simple position verbs). This criterion has also been mentioned by other linguists (e.g.: Carter, 1978; Kearns, 1991; among others).

Comrie (1976) also describes the difference between statives and non-statives as follows: "dynamic situations involve necessarily change, whereas states are situations that may or may not involve change" (p. 49). For example, the positional verb *stand* indicates a state of standing that may or may not entail a change. Hence, a book can *stand* on a shelf even if we change its position on that shelf. In the discussion of the opposition between statives and non-statives, Comrie investigates the difference between "state" and "dynamic situation" (p.48). In other considerations of this division, the comparison is made between terms such as "state" and "action" (e.g.: VendIer (1967, p. 107-121). According to Comrie, the difference between a state and a dynamic situation can be seen in "the relation between two phases of the situation" (p.48). In the case of a stative verb, such as *know*, all phases of the situation are alike i.e. all phases give the same situation. On the other hand, with a dynamic verb such as *run*, each phase of the situation is different. Comrie also mentions that non-states need an "input of energy" (p.49) to maintain the situation/event, whereas states do not require any effort. He writes:

> With a state, unless something happens to change that state, then the state will continue: this applies equally to standing and to knowing. With a dynamic situation, on the other hand, the situation will only continue if it is continually subject to a new input of energy: this applies equally to running and to emitting a pure tone, since if John stops putting any effort into running, he will come to a stop, and if the oscilloscope is cut off from its source of power it will no longer emit sound. To remain in a state requires no effort, whereas to remain in a dynamic situation does require effort, whether from inside (in which case we have an agentive interpretation, e.g. *John is running*), or from outside (in which case we have a nonagentive interpretation, e.g. *the oscilloscope is emitting a pure tone*). (Comrie, 1976, p.49)

Language-specific characteristics may add to the distinction between states and dynamic situations. For example, progressiveness may be used to distinguish situations/events crosslinguistically. In addition, in many cases across languages stativity may not combine with perfectivity. Thus, Comrie points out that, "In many languages stative verbs do not have forms with perfective meaning, while in many other languages this applies to a large number of stative verbs" (p.50).

In the linguistic literature, there are a number of tests that have been proposed to distinguish statives from non-statives (e.g.: Lakoff, 1966; Dowty, 1979; among others). The incompatibility of statives with the progressive is one of the popular tests, even though nonmonetary statives/interval statives (i.e., *simple position verbs*) may be used in the progressive. Another test that detects stativity is that states cannot occur as imperatives, they are incompatible with agent-oriented adverbs such as *deliberately* and

carefully. In addition, statives cannot occur as a complement of the verbs *force* and *persuade,* while non-statives can. Finally, only non-statives appear in pseudo-cleft constructions. Diagnostic tests and examples below are taken from (Dowty, 1979, p. 55).

I. Only non-statives occur in the progressive.

(1) a.*John is knowing the answer.

b. John is running.

c. John is building a house.

II. Only non-statives occur as complements of *force* and *persuade*.

(2) a.*John forced Harry to know the answer.

b. John persuaded Harry to run.

c. John forced Harry to build a house.

III. Only non-statives can occur as imperatives.

(3) a.*Know the answer!

b. Run!

c. Build a house!

IV. Only non-statives co-occur with the adverbs *deliberately, carefully*.

(4) a.*John deliberately knew the answer.

b. John ran carefully.

c. John carefully built a house.

V. Only non-statives appear in pseudo-cleft constructions.

(5) a.*What John did was know the answer.

b. What John did was run.

c. What John did was build a house.

Levin & Rappaport-Hovav (1995, p.171) argue that the drawback of these tests is that they can actually apply to non-statives with inanimate subjects as in (6).

(6) a.*I persuade the rock to roll down the hill

b.*The rock rolled down the hill carefully/deliberately

c.*Roll down the hill, rock

Jakendoff (1983 as cited in Levin & Rappaport-Hovav (1995, p.171) mentions another test to dichotomize statives and events/non-statives: Only non-statives can combine with structures such as: *what happened/occurred/took place was*. However, only some verbs of emissions (which are typically stative) agree to some extent with these constructions.

(7) a. ??What happened was the spotlight shone on the parking lot.

b. ??What happened was Mary's face glowed with excitement.

c. ??What happened was the garbage stank.

3 The Reanalysis of Unaccusatives as Copulas

In English some unaccusatives (e.g.: change of state and continuation of state verbs) have been reanalyzed as copulas (van Gelderen, 2018, p.152). Copulas have a Theme argument; however, they display variation with respect to their aspectual nature. They come in three aspectual types: telic, durative, and stative. The aspect of the copula can be arranged according to Sorace's (2000) hierarchy: with telic ones being the most unaccusative, the stative situated in the middle and the durative being the least unaccusative. van Gelderen states:

The reanalysis of these unaccusatives as copulas is due to their occurrence in an ambiguous context. For instance, intransitives are frequently modified by adverbs

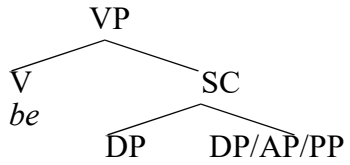
> that may not (or no longer) be morphologically marked as adverbs and therefore reinterpreted as copulas with adjective complements. ….. The changes in these verb types suggest that the Theme role stays stable but that there are some changes in aspect. (p.152)

Copula verbs are well known crosslinguistically to link the subject with the predicate (usually a locational or adjectival one). They are grammaticalized words from many sources such as: verbs, personal and demonstrative pronouns, or locative markers. Some copulas may also have a full lexical counterpart.

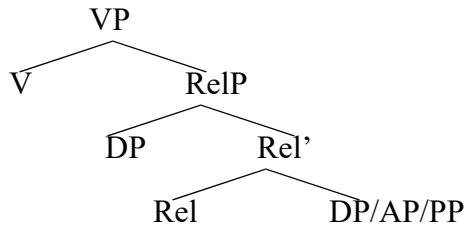
There is some disagreement in the literature about the definition of copulas. For example, Lyons (1977) defines it as "a meaningless lexeme whose syntactic function is to convert whatever it combines with into a verbal (i.e., predictive) expression (p.471). This definition only covers the verb "*be*". van Gelderen endorses "a broader definition" (p.116) that encompasses "copulas with shades of modal, e.g., '*seem*', and aspectual, e.g. '*remain*', meanings". She adopts a structural definition of copulas. According to her, a copula attaches a DP in subject position to a DP, AP, or PP, gives a Theme theta-role to the subject, and adds modal and aspectual meanings. It can be seen as "a light verb" assigning a certain Theta-role (p.116).

Several structures of copulas have been proposed by many scholars. Many suggested structures include a small clause (i.e., one that lacks a verb), as illustrated in (8). Den Dikken replaces the Small Clause with a Relator Phrase (RelP) with a relator head, as indicated in (9).

(8)

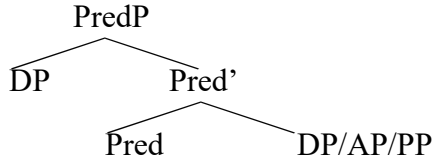


(9)



Another analysis of a copula involves a Predicate Phrase (PredP) (Bowers, 1993). The head of this phrase marks the Theme argument. van Gelderen adopts the PredP in her analysis of copulas because it is the clearest about theta-roles as in (10).

(10)



(van Gelderen, 2018, p.117)

van Gelderen includes a group of unaccusatives i.e. ones that belong to the top half of the hierarchy as illustrated in Table 4.1. They are equally distributed along the unaccusative-side verb classes, as illustrated in Table 4.2. Yet the verbs *go* and *appear* exhibit deviation from the norms of this group. The verb *go* has developed into a controlled motion one but also has kept some original unaccusative readings and become a telic change-of-location copula. Similarly, the verb *appear* is a telic change of state verb and stative copula as well. It gives up its telic aspect but maintains the stative aspect as stative copula.

Table 4.1
Copulas in Modern English (van Gelderen, 2018, p.121)

Also unaccusative:	**Also transitive:**	**Also labile:**
appear, remain, stay, drift persevere, persist, go come (expensive), fall (flat) loom, break, befall, seem, stand, lie, blush, rest, become	feel, sound, smell, look, taste hold, keep, wear, get, prove, strike, show, flash, bang (shut)	ring, continue, grow, turn, commence, wax, fly (open), burn blow (open)

Table 4.2
The Types of Unaccusative Copulas (van Gelderen, 2018, p.121)

Sorace's Term	**Example**	**Copular**
Aspect		
Change of Location	come, fall, befall, drift, go	telic
Change of State	break, blush, become, **appear**	telic
Continuation of a pre-existing state	remain, stay, persist, persevere stand, lie, rest, loom	durative
Existence of State	seem, **appear**	stative
Uncontrolled process	--	
Controlled process (motional)	--	
Controlled process (non-motional)	--	

She focuses on three unaccusatives, i.e. *appear, remain,* and *become,* and explains some changes that these verbs go through. These intransitives are reanalyzed as copulas of mood, duration, and change of state respectively. In a nutshell, they evolve from V to Pred but maintain the Theme role and their initial aspectual qualities.

The intransitive *appear* was the first verb that became a stative copula, namely in Middle English. The verb shifts from change of state ('become visible') or stative ('be visible') to only stative aspect ('uncertain mood'). The [u-Th] shows that *appear* takes a Theme argument.

(11) V (intransitive) > Pred (copula)

appear appear

[be/come visible] [uncertain mood]

[u-Th] [u-Th]

The verb *remain* is another intransitive that develops into a copula. The features that undergo a change are indicated in (12). The feature of "continuation" turns into a durative aspect. Like in the case of *appear*, the [u-Th] expresses that *remain* takes a Theme.

(12) V (intransitive) > Pred (copula)
remain remain
[continuation] [durative]
[u-Th] [u-Th]

In a similar manner, the unaccusative *become* undergoes a change from an intransitive into a change-of-state copula and preserves its initial telic aspect as described in (13).

(13) V (intransitive) > Pred
become become
[change of location] [telic]
[u-Th] [u-Th]

The reanalysis of intransitives as copulas can be attributed to the fact that intransitives hardly occur alone without a modifying adverbial. Another explanation for this reanalysis is the presence of structural ambiguity. Intransitives may appear in apposition constructions and the nominal following them might be used appositively and not kept separate from them. This structural ambiguity leads to reanalysis of this nominal as a complement of the copula (i.e. the transitive verb) as illustrated in (14) (Visser, 1963, p.195 as cited in van Gelderen, 2018, p.125)

(14) *the Factour with the others did* ***remaine*** *prisoners*
'the perpetrator with the others remained, prisoners.'

In the above example, the noun “prisoners” is used appositively to modify the intransitive verb as there is no explicit break between this noun and the rest of the sentence. Furthermore, intransitives might be found in ambiguous constructions: When an adjective is used to modify an intransitive, it is not clear whether it actually modifies the intransitive or complements the copula as some adjectives could be used as an adjective or an adverb. In (15) the verbs are ambiguous between being transitives or copulas. Intonation is key in such ambiguous situations: When there is no pause, the verb is interpreted as a copula as in (15), while when there is a pause the verb is rendered intransitive as in (16).

(15) a. They lived happy. copula

b. She returned rich.

(16) a. They lived, happy. intransitive

b. She returned, rich (van Gelderen, 2018, p.126)

Structural ambiguity also arises in the case of intransitives with a PP. For instance, the verb *live* in (17 a) has two plausible interpretations: It could be interpreted as either a intransitive with an adverbial PP or a copula with a complement PP. In contrast, the verb *is* in (17b) has only one possible reading i.e. a copula (van Gelderen, 2018, p.126).

(17) a. She lives in Italy.

b. She is in Italy.

4 Continuation-of-a-Preexisting-State Verbs in Arabic

In this section, I examine the behavior of a subset of Arabic continuation-of-existence verbs, mainly *dama* “lasted”, *istamara* “continued”, *baqia* “stayed”, and *dʿalla*

"remained" and test their compatibility with the characteristics that distinguish unergatives/duratives from unaccusatives/telic. Semantically, they all entail that a pre-existing state continues unchanged. They are unaccusative and have a Theme argument. Verbs in this class are compatible with agent-oriented adverbs (e.g.: *qasʿdan* "intentionally" and *ʕamdan* "deliberately") when the subject is human/agentive as in (18) and (19).

(18) dʿalla al-walad-u sʿamit-an qasʿdan
remain.PAST.3S.M the-boy-NOM silent-ACC intentionally
"The boy intentionally remained silent."

(19) baqia-t al-bint-u yaqidʿa-t-an ʕamdan
stayed.PAST-3S.F the-girl-NOM awake-F.S-ACC deliberately
"The girl deliberately stayed awake."

As mentioned before in this chapter, van Gelderen (2018) states that intransitives can be reanalyzed as copulas. Following her approach, I argue that this is possible in Arabic too. Since intransitives are usually accompanied by adverbials, they can be ambiguous i.e., they can be interpreted as intransitives or copulas. In (18) and (19), the adverbials *sʿamitan* "silent" and *yaqidʿatan* "awake" are ambiguous between modifying the intransitives or complementing the copulas *dʿalla* "remained" and *baqia* "stayed". Thus, they can also be analyzed as copular verbs since they link the subject with the predicate and indicate the aspect (durative). Furthermore, the meaning in this case is incomplete without the adverbial.

Native speakers judge sentence (20) ungrammatical. This is not unexpected as these verbs are sensitive to the agentivity of the subject. Here the subject is inanimate and

thus nonagentive. As a result, agent-oriented adverbs cannot be used to modify the continuation of existence verb.

(20) *dˤalla-t al-sama-u tu-mitˤiru ʕamdan
remain.PAST-3S.F the-sky-NOM 3S.F.IMPF-rain deliberately
"literally: It continued to rain deliberately."

Continuation-of-state verbs cannot be transitivized as they are unaccusative with a Theme argument, thus they cannot add another Theme to their VP as indicated in (21).

(21) *baqia khalid-un axu-hu
remain.PAST.3S.M Khalid-NOM brother-3S.M
"Khalid remained his brother."

Yet, they can combine with a cognate object (Sweet, 1891, p. 91) which provides aspectual and modal information. Interestingly, in Arabic the cognate object can attach to unergatives, unaccusatives, and transitives. In example (22) the verb *istamara* "continued" adds a cognate object *istmraran* "continuation".

(22) istamara al-mawqif-u istmrar-an
continue.PAST.3S.M The-situation-NOM continuation-ACC
"The situation continued."

This type of cognate object in Arabic is called the "absolute object" and it is used to emphasize the verb meaning, to specify the manner in which the verb occurs, and to show how many times the action takes place. However, their compatibility with cognate objects does not seem enough to distinguish unaccusatives in Arabic as unergatives and transitives too can combine with a cognate object.

Since this class is sensitive to the agentivity of the subject, their readiness to occur in the imperative form depends on whether or not the subject is volitional/has control. Native speakers agree on the grammaticality of the following examples.

(23) ʔibqa sˁamit-an

remain silent.ACC

"Stay silent."

(24) ʔistamir fi al-ʕamal-i

continue fi the-work-GEN

"Keep working."

In the above example, if the subject is human/agentive, the imperative is ok. However, if the subject is nonagentive, the imperative form is deemed ungrammatical.

Now let's examine the compatibility of continuation-of-existence verbs with *for*-adverbials and *in*-adverbials. They are ready to combine with *for*-adverbials which indicates a durative aspect, but not with *in*-adverbials.

(25) istamara al-moʔtamar-u li-θalaθa-t-i ajam-in (*fi θalaθa-t-i ajam-in)

last.PAST.3S.M The-conference-NOM for-three-F.S-GEN days-GEN (*in-three-F.S-GEN days-GEN)

"The conference lasted for 3 days."

(26) dama-t ʕalaqa-t-u-hum li-ʔarbaʕ-i sanaw-at-in (*fi ʔarbaʕ-i sanaw-at-in)

last.PAST-3S.F relationship-F.S-NOM-3M.PL for-four-GEN yearsF.PL-ACC (*in-four-GEN years.F.PL)

"Their relationship lasted for four years."

The corpus search yielded 48,390 instances of the verb *istamara* "lasted". Many of these instances were combined with *for*-adverbials as shown in table 4.3.

Table 4.3
For-Adverbials with the Verb Istamara "Lasted"

***For*-adverbials**	**Number of Occurrences**
limudati "for"	821 times (1.7%)
naħwa "around"	439 times (0.9%)
tˁiwala "around"	201 times (0.4%)
liʔakθari min "for more than…"	139 times (0.3%)
lifatrati "for"	139 times (0.3%)
fatrata "for"	102 times (0.2%)
ħawali "around"	75 times (0.15%)

Similarly, the verb *dˁalla* "remained" occurred in the corpus 83,391 times and was modified by many *for*-adverbials as indicated in Table 4.4.

Table 4.4
For-Adverbials with the Verb Dˁalla "Remained"

***For*-adverbials**	**Number of Occurrences**
tˁiwala al waqti "all-time"	213 times (0.3%)
lifatrati "for"	60 times (0.7%)
limudati "for"	53 times (0.6%)
lisanawatin "for years"	70 times (0.8%)

Correspondingly, there were 97,155 instances of the verb *baqia* "stayed" in the corpus. Many of these instances were combined with Arabic *for*-adverbials as illustrated in Table 4.5.

Table 4.5
Instances of the Verb Baqia "Stayed" with for-Adverbials

***For*-adverbials**	**Number of Occurrence**
tˁiwala "all the time"	72 times (0.07%)
mudati "for"	54 times (0.05%)
limudati "for"	32 times (0.03%)
ħawali "around"	10 times (0.01%)

As seen, continuation-of-a-preexisting states in Arabic are sensitive to the semantic factors of the predicate (e.g.: the agentivity of the subject). This is not surprising as noncore intransitives (i.e., the ones in the middle of SIH) are less determinate about their aspectual features and more sensitive to the characteristics of the verb and the construction they appear in. They distinguish between an animate/human subject and inanimate subject. I argue that these verbs in Arabic are durative and not stative. They do not pass main stativity tests such as the incompatibility with the imperative (and the progressive which I discuss in Section 7). Instead, they are compatible with the imperative form when the subject is agentive. In addition, they can be modified by *for*-adverbials regardless of whether the subject is human/agentive or not which reflects a durative aspect. Also, their semantic feature of "continuation" reinforces their durativity as lexical/inner aspect is strongly analogous to the semantics of the verb itself. In conclusion, I assume, in line with van Gelderen (2018) that the verbs *dˁalla* "remained",

baqia “stayed”, *istamara* “lasted” and *dama* “continued/lasted” “translate [their] semantic feature of ‘continuation’ into durative aspect” (p.129).

5 Existence-of-State Verbs

Existence-of-state verbs signify simple existence. They can be distinguished from continuation-of-state verbs in that they do not imply a change, while verbs of continuation do. Existence-of-state verbs consist of verbs of concrete states such as (*be, exist, belong*), positional verbs such as (*sit, lie*, ...etc.), and verbs of abstract or psychological states such as (*seem, suffice, please*).

Stative verbs show the most variable behavior among the classes of the SIH. They denote static situations. Keller & Sorace (2003) notice that verbs of a concrete state and verbs of a psychological state take the auxiliary *haben* “have” in German. The only exception is the verb *sein* “be” which selects the auxiliary *sein* “be”. Similarly, the verb *be* exhibits the same behavior in Dutch and French. The positional verbs represent more variation i.e., both auxiliaries are allowed. Keller & Sorace envisage this variation as an indication that “verbs in this class can be conceptualized in different ways” (p.68).

There is a considerable amount of literature on verbs of existence. Mulder & Wehrmann (1989) and Hoekstra & Mulder (1990) investigate the nature of verbs of existence. Mulder & Wehrmann state that this class denotes eventualities that associate two things: a theme and a location. Levin & Rappaport Hovav (1995, p.127) call positional verbs, verbs of spatial configuration and identify three meanings for positional verbs in English. The first one is a “maintain position” meaning (e.g.: *Yvonne stood alone (in the hallway) for six hours*). This meaning is agentive, and the action is deliberately instigated by an animate subject. The second meaning is an “assume position” sense (e.g.:

Yvonne stood (up)). This meaning is also agentive describing an intentional "coming to be in a particular position" (p.127). Those two meaning can be distinguished from each other in that it is only the "assume position" meaning that allows these verbs to combine with completive particles as in (27a, b, c).

(27) a. Holly sat up/down.

b. Denise lay down.

c. The audience all stood up.

The last meaning is a "simple position" one (e.g.: *The papers lay on the desk*). This type of meaning is nonagentive. The locative phrase is required with this meaning and without it the sentence is ungrammatical as indicated in (28)-(30).

(28) The statue stood *(in the corner).

(29) The purse lay *(on the table).

(30) The picture is hanging *(in the wall).

The aspectual classification of verbs of spatial configuration has been a subject of debate in the literature (e.g.: Dowty, 1979; Levin & Rappaport Hovav, 1995; Sorace, 2000; among others). Verbs in this class accept both agentive and nonagentive meanings which shows their complex nature. In the "maintain position" reading, they are internally caused and thus unergative. On the contrary, in the "simple position" and "assume position" senses, they are unaccusative. Sorace postulates that within her framework the three kinds of verbs of spatial configurations belong to three different classes: the "maintain position" meaning is a continuation of state, the "assume position sense" is a change of state, and the "simple position" is an existence-of-state.

As seen above, positional verbs are lexically ambiguous in English as they can have multiple meanings. The "simple position" meaning of verbs of spatial configuration is the only meaning that relates this class to the verbs of existence. Thus, Levin & Rappaport Hovav (1995) argue that "the simple position verbs are verbs of existence" (p.128). They behave like verbs of existence in many ways. For instance, semantically they show the existence of the subject in a certain place. Moreover, like verbs of existence, a locative phrase is necessary with the "simple position" verbs.

Levin & Rappaport Hovav furthermore claim that verbs of existence and appearance constitute together a class that is different from the class of monadic change of state verbs even though both classes are unaccusative. Some of the characteristics that sort them out can be attributed to the fact that the notions of internal and external causation do not apply to them. The evidence that verbs of existence and appearance are unaccusative across languages is that they take the unaccusative auxiliary *essere* "be" in Italian, the unaccusative auxiliary *izen* "be" in Basque, and the unaccusative *zijn* "be" in Dutch. Yet, the most obvious indication of their unaccusativity arises from their compatibility with *there*-insertion: "Verbs of existence and appearance are attested in instances of *there*-insertion that qualify as inside verbals, supporting unaccusative classification of these verbs" (p.149).

(31) a. There arose dissention between them, concerning a head wound suffered by a cow

b. There remained three documents on his blotter when he pressed his desk belt.

Correspondingly, the simple position verbs show up in instances of *there*-insertion i.e., "there V NP PP" (p.151) as in (32).

(32) Meaning that it had not happened yet for there stood Buffy in the driveway starting after them her hand raised in a wan farewell.

Another indication of the unaccusativity of the simple position verbs is that they do not accept an object. According to Levin & Rappaport Hovav, they don't even allow a cognate object (p.152) as shown in (33).

(33) *The statue stood a heroic stance in the middle of the common.

6 Existence-of-State Verbs in Arabic

In this section, I examine the type of aspect associated with Arabic existence-of-state verbs. I conduct the same diagnostic tests proposed crosslinguistically for the purpose of recording the behavior of these verbs. Furthermore, I use native speaker judgment when needed. Following Sorace, I divide this class into verbs of concrete states (e.g.: *kana* "was"*, tawadʒada* "existed"*,* and *ʔintama* "belonged"), positional verbs (e.g.: *dʒalasa* "sat"*, waqafa* "stood", *ʔistalqa* "lay", etc.), and verbs of abstract or psychological states (e.g.: *bada* "seemed", etc.). First, I examine verbs of concrete states (e.g.: *kana* "was"*, tawadʒada* "existed"*,* and *ʔintama* "belonged"). The verb *kana* "was" is unaccusative in Arabic. Native speakers do not accept the use of the adverb *ʕamdan* "deliberately" with *kana* as in (34).

(34) *kana ðakij-an fi tasˁaruf-i-h ʕamdan
be.PAST.3S.M smart-ACC in behavior-GEN-3SM deliberately
"Literally: He was deliberately smart in his behavior."

The adverb *ʕamdan* "deliberately" is agent-oriented and therefore it co-occurs with unergatives but not unaccusatives. This test also entails the stativity of *kana* because as we know statives are not supposed to appear with the adverb *deliberately.*

Kana "was" can be predicated by animate or inanimate subjects. In example (34) above the subject is animate and in (35) the subject is inanimate.

(35) Kana aʃ-ʃitaʔ-u barid-an
be.PAST.3S.M the-winter-NOM cold-ACC
"The winter was cold."

Another piece of evidence that *kana* receives an unaccusative classification in Arabic is that it cannot take an object. Even the presence of a cognate object, which willingly occurs with unaccusatives, unergatives, and transitives in Arabic, is unacceptable in the case of *kana*. My informants don't accept the following sentence.

(36) *kana ðakij-an kajnonat-an
be.PAST.3S.M smart-ACC being-ACC
"Literally: He was smart being."

However, the cognate object can be used to describe the complement *ðakij-an* "smart" as in (37). Native speakers accept the following sentence without question.

(37) Kana ðakij-an ðaka-an nadir-an
be.PAST.3S.M smart-ACC smartness-ACC rare-ACC
"Literally: He was smart in a rare way."

In the next example, I observe the use of the imperative with *kana*. As a matter of fact, its occurrence as an imperative varies according to the animacy of the subject. In other words, the imperative form is ok if the subject is animate as in (38).

(38) kun ʕisˁami-an

be self-made-ACC

“Be self-made!”

However, as expected when predicated by an inanimate, *kana* cannot occur in the imperative form. Native speakers provide the same judgement regarding the following sentence: They don’t accept it.

(39) *kun saʕid-an ajuha al-ħiˁan-u

be happy-ACC you the-horse-NOM

“Be happy, horse!”

To further identify the type of aspect associated with these verbs, I investigate whether they combine with adverbials that indicate telicity and durativity. The use of *for*-adverbials is grammatical with *kana*. Native speakers find sentence (40) fully acceptable with a *for*-adverbial but not with an *in*-adverbial.

(40) kana ɣaib-an li-ʔisbuʕ-in *(fi-ʔisbuʕ-in)

be.PAST.3S.M absent-ACC for-one.week-GEN *(in-one.week.GEN)

“He was absent for one week.”

Like many other languages, Arabic exhibits a zero-copula phenomenon. The copula *yakunu* “be” is dropped in present tense, whereas it is added in past and future tenses as shown in (41).

(41) Ahlam Mosteghanem katiba-t-un dʒazaerija-t-un

Ahlam Mosteghanem writer-F.S-NOM algerian-F.S.NOM

“Ahlam Mosteghanem is an Algerian writer.”

The verb *kana* can be used as a dynamic verb i.e., it can represent a change, and in this case, it is considered a change of state verb, and specifically a verb of happening/occurring as it can mean *waqaʕa* "occurred" or *ħadaθa* "happened".

(42) kanat al-ħarb-u

occur.PAST.3S.F the-war-NOM

"The war occurred."

With this type of *kana* the use of *in*-adverbials is grammatical because it's telic as in (43).

(43) Istaʕada al-muħarib-u wa kanat al-ħarb-u fi ajam-in *(li-mudati ajam-in)

prepare.PAST.3S.M the-warrior-NOM and occur.PAST.3S.F the-war-NOM in days.ACC *(for-period days.ACC)

"The warrior prepared, and the war occurred in days."

This type of telic *kana* normally does not allow the imperative form. Judgment obtained from my informants confirms the ungrammaticality of sentence (44).

(44) *kun tˁajr-an

be bird-ACC

"Be a bird!"

Traditional Arabic grammarians differentiate between two types of *kana*: complete *kana* and incomplete *kana*. In traditional Arabic grammar, "complete" verbs are those verbs that describe an action occurring at a specific time, while "incomplete" verbs are those verbs that do not denote an action but express a change in time or state. The verb *kana* in (27) is described as "incomplete" while the one in (34) is complete. Wright (1898) states that Arabic grammarians call this type of *kana* "the incomplete or defective, relative *kana*, because it requires an attribute to complete the sense" (p.100).

Grammarians also discuss “the complete, absolute *kana*, because it contains the attribute in itself and does not require any other” (p.100). Most traditional grammarians describe these verbs as “incomplete” because they only indicate time. Others (e.g.: Hasan (1975, p.545) mention another reason: They are called “incomplete” because the predicate exists outside them, while in the case of complete verbs, the predicate is within.

Sibawayh (1988) states that in the case of *kana* the predicate is separate and thus *kana* needs what comes after it (i.e., the predicate) to complete the meaning of the sentence. To demonstrate how *kana* cannot do without its predicate, Sibawayh uses the following example (p.45).

(45) kana Abd-u-llah-i ax-a-ka
was Abd-NOM-Allah-GEN brother-ACC-2S.M
“Abdallah was your brother.”

In this example *kana* is used to indicate “time” only and if we take it out, the sentence stays meaningful and grammatical i.e., a nominal sentence. Nevertheless, he also mentions the other type of *kana* i.e., the complete one (p.46) as indicated in (46) and (47).

(46) kana Abd-u-llah-i
exist.PAST.3S.M Abd-NOM-Allah-GEN
“Abdullah existed.”

(47) kana al-ʔamr-u
occur.PAST.3S.M the-matter-NOM
“The matter occurred.”

In those two examples, *kana* is complete and does not need a predicate. In (46) *kana* is a verb of existence while in (47) it is a verb of occurrence i.e., a change of state verb.

It is not only *kana* that represents this phenomenon, but also other Arabic verbs do too and thus they are called *kana wa axawatiha* "kana and its sisters". Just like *kana*, these verbs can occur as complete or incomplete with different functions (Wright,1898, p.101-106). Hasan (1975) gives a full discussion of these verbs and their complete and incomplete senses (p. 548-566) as illustrated in the following table.

Table 4.6
Kana and its Sisters (Hasan, 1975)

The Verb	**Incomplete Meaning**	**Complete Meaning**
kana	was	happened, occurred
dˁala	became or did during the day	remained
bata	became/did during the night	spent the night
ʔasˁbaħa	became or did in the morning	entered morning
ʔadˁħa	became or did in the forenoon	Entered forenoon
ʔamsa	became or did in the evening	Entered evening
sˁara	became, turned out	settled and established
lajsa	It is not	No complete meaning
ma zala	did not stop doing, continued	No complete meaning
ma baraħa	did not stop doing	remained, stayed
ma fatiʔa	did not refrain from doing	did not forget
ma ʔnfaka	did not stop doing	did not separate
ma dama	continued	lasted

For a full review of the chronological development of the notion of "complete" and "incomplete" verbs, see Zabarah (2012) where she elaborates on how different Arabic grammarians explain the difference between these verbs in traditional Arabic grammar.

Besides *kana* "was"*,* verbs of concrete states include *ʔintama* "belonged"*, ʕaʃa* "lived", *tawadʒada* "existed", etc. Those verbs demonstrate similar behavior i.e., they show variation with respect to their ability to pass the diagnostic tests. For example, the behavior of verb *ʔintama* "belonged" is consistent with that of other concrete state verbs, such as: it does not co-occur with *deliberately* and *carefully*, it does not allow the use of the imperative form, it does not combine with *in*-adverbials or *for*-adverbials, etc. as I show in the examples below. The search for *ʔintama* in the corpus returned 21,065 instances of the verb, with 8,240 of the verb instances (39.1%) combined with a PP which indicates that this verb is stative and behaves like a copula that needs an attribute or a complement as in (48). I did not come across any example where this verb appears with adverbials signaling durativity or telicity. However, judgment obtained from native speakers reflects the inconsistency of this verb with *in*-adverbials and *for*-adverbials as in (49)

(48) ʔintama ʔila ʕaʔijla-t-in ʕariqa-t-in min misˁr-a

belong.PAST.3S.M to family-F.S-GEN ancient-F.S-GEN from Egypt-GEN

"He came from an ancient family from Egypt."

(49) ʔintama ʔila ʕaʔijla-t-in ʕariqa-t-in *(fi saʕa-t-in) *(li-saʕa-t-in)

belong.PAST.3S.M to family-F.S-GEN ancient-F.S-GEN *(in hour-F.S-GEN) *(for-hour-F.S-GEN)

"He came from an ancient family."

Judgement obtained from native speakers reflects that this verb does not co-occur with *ʕamdan* "deliberately" as in (50).

(50) *ʔintama ʔila ʕaʔijla-t-in ʕariqa-t-in ʕamdan

belong.PAST.3S.M to family-F.S-GEN ancient-F.S-GEN deliberately

"He deliberately came from an ancient family."

Moreover, native speakers rarely approve of the use of the imperative form *ʔintami* as in (51).

(51) ???ʔintami ʔila ʕaʔijla-t-in

belong to family-F.S-GEN

"Belong to a family."

Now let's look at another stativity test: The ability of this verb to be embedded under verbs such as *ʔadʒbartu* "forced" and *ʔaqnaʕtu* "persuaded". Judgments drawn from native speakers confirm the ungrammaticality of sentence (52).

(52) *ʔadʒbartu-hu ʔan ya-ntami ʔila ʕaʔijla-t-in

persuade.PAST.1S-3S.M that 3S.M.IMPF-belong to family-F.S-GEN

"I persuade him to belong to a family."

Let's look at the verb *ʕaʃa* "lived" as in (53).

(53) ʕaʃa fi al-manfa

live.PAST.3S.M in the-exile

"He lived in exile."

This verb accords with states' behavior in one way or another. It is lexically ambiguous in Arabic. Thus, it may or may not allow the imperative form, depending on the type of

meaning it takes. When talking about the literal meaning of the verb i.e. “to be alive or capable of vital functions”, the imperative form in (54) is not acceptable to native speakers. However, when this verb has a meaning such as “to conduct or pass one’s life”, the imperative form is readily accepted by my informants as in (55).

(54) *la ta-mot! ʕiʃ tˤaweel-an!
No 2S.M-die! live long-ACC!
“Don’t die! live longer!”

(55) ʕiʃ kama ya-hlu la-ka
live as 3S.M.IMPF-like for-you
“Live as you like.”

The occurrence of this verb with *deliberately* and *carefully* fluctuates depending on the type of meaning associated with the verb. When it means “to be alive and capable of vital functions”, it is nonagentive and thus typically does combine with these adverbs as in (56). Nevertheless, when it means “to conduct or pass one’s life”, it may appear with agent-oriented adverbs as in (57).

(56) *lan a-mout! sa-a-ʕiʃu ʕamdan!
No 1S-die! Fut-1S-live deliberately
“I will not die! I will deliberately stay alive!”

(57) ʕaʃa bi-ħaðar-in
live.PAST.3S.M with-carefulness-GEN
“He lived carefully.”

In the case of this verb occurrence as a complement of *force* and *persuade*, I see variation depending on the kind of meaning connected to the verb: If we are talking about the

literal meaning i.e., “to be alive or capable of vital functions”, it does not allow such constructions as illustrated in (58).

(58) *ʔaqnaʕtu-h-u ʔan ya-ʕiʃa
persuade.PAST.1S that 3S.M.IMPF-live
“I persuade him to live!”

Nevertheless, when the verb means “to dwell or occupy a home”, it readily occurs as a complement of *force* and *persuade*.

(59) ʔaqnaʕtu-h-u ʔan ya-ʕiʃa fi al-rijadˤ-i
persuade.PAST.1S-3S.M.ACC that 3S.M.IMPF-live in the-Riyadh-GEN
“I persuade him to live in Riyadh.”

Now let’s explore the possibility of the occurrence of this verb in constructions modified by *in*-adverbials or *for*-adverbials. Based on judgments drawn from native speakers, the verb *ʕaʃa* cannot be modified by *in*-adverbials regardless of the meaning associated with it as in (60).

(60) *ʕaʃa-at fi ɣurfa-t-in sˤaɣira-t-in fi ajam-in
live.PAST-3S.F in room-F.S-GEN small-F.S-GEN in days.GEN
“She lived in a small room in days.”

This is not unpredictable because *in*-adverbials typically appear with telic verbs. However, *ʕaʃa* “lived” in its literal meaning can be modified by *for*-adverbials as in (61) and when it appears in constructions such as (62). Both sentences are acceptable to native speakers.

(61) ʕaʃa θalaθeen-a ʕam-an
live.PAST-3S.M thirty-ACC year-ACC

"He lived for thirty days."

(62) ʕaʃa-at fi ɣurfa-t-in sˁaɣira-t-in li-mudati ajam-in θuma ʔntaqal-at

live.PAST-3S.F in room-F.S-GEN small-F.S-GEN for days.GEN then move.PAST-3S.F

"She lived in a small room for days and then she moved."

Pulling things together, lexical ambiguity is more common with statives than with duratives or telic verbs. Sorace (2000) points out that noncore verbs (i.e., statives) are more open to having multiple meanings and thus more fluctuating in their behavior. The results obtained from Arabic stative verbs support Sorace's findings with respect to the presence of lexical ambiguity in this aspectual class.

Let's turn now to positional verbs (also called posture verbs or verbs of spatial configuration). Like in many other languages, positional verbs in Arabic (e.g.: *dʒalasa "*sat*", waqafa* "stood"*, ʔistalqa* "lay"*, rakakʕa* "neeled", *ʔinħana* "stooped", etc.) specify the position of an entity that takes a particular spatial configuration. Like their English counterparts, Arabic positional verbs can be lexicalized in different ways. They can be extended to conceptualize three meanings: the maintain position meaning in (63), the assume position meaning in (64) and the simple position meaning in (65).

(63) waqafna ʕnda al-bab-i li-muda-t-i saʕa-t-in

stand.PAST.1PL at the-door-GEN for-period-F.S-GEN hour-F.S-GEN

"We stood at the door for an hour."

(64) kana dʒalis-an fi maktab-i-hi θuma waqafa

be.PAST.3S.M sitting-ACC in office-GEN-3S.M then stand.PAST.3S.M

"He was sitting in his office, then he stood up."

(65) ya-qifu al-nusˤb-u al-tiðkari-u fi as-saħa-t-i

3S.M.IMPF-stand the-monument-NOM the-memorial-NOM in the-square-GEN

"The monument stands in the square."

In examples (63) and (64) the verb *waqafa* describes volitional activities that are controlled by the subjects, while in (65) the verb denotes a non-volitional state i.e. it describes the position/location of an inanimate entity. Positional verbs with agentive meanings may or may not take locative phrases (i.e., PP) as in (63) whereas the nonagentive sense requires a PP as in (65). This verb's ability to combine with agent-oriented adverbs confirms the unergativity of its agentive uses as (66) and (67).

(66) waqafna tˤawʕan (ʕnda al-bab-i) li-saʕa-t-in

Stand.PAST.1PL willingly (at the-door-GEN) for-hour-F.S-GEN

"We willingly stood (at the door) for an hour."

(67) kana dʒalis-an fi maktab-i-hi θuma waqafa tˤawʕan li-juħaji-ni

be.PAST.3S.M sitting-ACC in office-GEN-3S.M then stand.PAST.3S.M willingly to-greet-1S

"He was sitting in his office, then he willingly stood up to greet me."

Meaning (65) indicates a lack of volition and thus it is not expected with agent-oriented adverbs as in (68).

(68) *ya-qifu al-nusˤb-u al-tiðkari-u fi as-saħa-t-i bi-ʔiħtiras-in

3S.M.IMPF-stand the-monument-NOM the-memorial-NOM in the-square-GEN with-carefully-ACC

"The monument carefully stands in the square."

The use of imperatives is common with the agentive meanings only as illustrated in (69).

(69) qif mustaqim-an wa ʔirfaʕ raʔs-ak

stand straight-ACC and raise head-2S.M

"Stand up straight and raise your head."

The "maintain position" reading of *waqafa* is durative and can be modified by a *for*-adverbial as in (63) but not by an *in*-adverbial as in (70).

(70) *waqafna ʕnda al-bab-i fi saʕa-t-in

stand.PAST.1PL at the-door-GEN in hour-F.S-GEN

"We stood at the door in an hour."

The "assume position" reading is a change-of-state one with a telic aspect and hence combines only with *in*-adverbials as in (71).

(71) kana dʒalis-an fi maktab-i-hi θuma waqafa fi θawani

be.PAST.3S.M sitting-ACC in office-GEN-3S.M then stand.PAST.3S.M in seconds

"He was sitting in his office, then he stood up in seconds."

The "simple position" reading is an existence of state verb and thus is stative i.e. it does not allow neither *for*-adverbials nor *in*-adverbials as in (72).

(72) ya-qifu al-nusˁb-u al-tiðkari-u fi as-saħa-t-i *(fi saʕa-t-in) *(li-saʕa-t-in)

3S.M.IMPF-stand the-monument-NOM the-memorial-NOM in the-square-GEN *(in hour-F.S-GEN) *(for-hour-F.S-GEN)

"The monument stands in the square."

Now let's look at the behavior of the verb *dʒalasa* "sat". This verb can express up to four meanings: a maintenance of a position, an assumption of a position, a simple position, and a continuation of state meaning as shown in (73).

(73) ta-dʒlisu al-ʕadʒina-t-u fi al-ðaladʒa-t-i li-muda-t-i ðalaðat-i ajam-in

3S.F.IMPF-sit the-dough-F.S-NOM in the-fridge-F.S-NOM for-period-F.S-GEN three-GEN days-GEN

"The dough sits in the fridge for three days."

This type of meaning is nonagentive. The prepositional phrase is mandatory and not optional. Interestingly, with this type of meaning *for*-adverbials are allowed as illustrated in the example. This meaning the verb is considered a *continuation-of-state* verb that signifies a continuation of a preexisting state and can be used interchangeably with other verbs of continuation. This verb occurs 20,990 times in the corpus. It occurs 7,392 times (35%) followed by a PP such as *ʕala al kursi* "on the chair" and 121 times (0.6%) modified by adverbials indicating the duration such as *li-saʕaat-in* "for hours".

To sum up, positional verbs express lexical ambiguity and can have different inner aspects (telic, durative, and stative). This irregular pattern might explain why they are located in the middle of the split intransitivity hierarchy. Also, animacy is relevant to them because the "maintain position" reading is only found with animate subjects. The results are in line with the crosslinguistic variation found among verbs in the middle of the hierarchy.

Verbs of existence also include verbs of abstract or psychological states (e.g.: *bada* "seemed"*, kafa* "sufficed", etc.). In Arabic, these verbs are unaccusative with a stative aspect and are incompatible with agent-oriented adverbs, imperatives, and theme

augmentation. The search for *bada* in the corpus returned 50,363 results. It cannot be modified by agentive adverbs such as *ʕamdan* "deliberately" as illustrated in (74).

(74) *bada waθiq-an dʒid-an ʕamd-an
seem.PAST.3S.M confident-ACC very-ACC deliberately-ACC
"He deliberately seemed very confident."

The verb *bada* "seemed" is unaccusative i.e., it takes a theme as its basic argument. Therefore, another theme cannot be added as its VP is already occupied as in (75).

(75) *bada ahmad-un ali-an
seem.PAST.3S.M ahmad-NOM ali-ACC
"Ahmad seemed Ali."

In addition, psychological state verbs like *bada* are typically incompatible with the imperative as in (76).

(76) *ʔibdu waθiq-an dʒid-an
seem confident-ACC very-ACC
"Seem very confident!"

This verb is incompatible with *for*-adverbials and *in*-adverbials as well as demonstrated in (77).

(77) bada waθiq-an dʒid-an *(li-muda-t-i daqiqa-t-in) *(fi daqiqa-t-in)
seem.PAST.3S.M confident-ACC very-ACC for-period-F.S-GEN minute-F.S-GEN
"He seemed very confident."

Moreover, it cannot occur as a complement of *force* and *persuade* as shown in example (78). Judgments obtained from speakers of the language affirm this.

(78) *ʔaqnaʕtu-h-u ʔan ya-bdo waθiq-an

persuade.PAST.1S that 3S.M.IMPF-seem confident-ACC

"I persuade him to seem confident."

7 The Outer Aspect and Stative Verbs

As stated before, diagnostic tests of stativity are based on the meaning of the verb (i.e., the inner aspect), however; the outer aspect can coerce this meaning and modify it. For instance, perfective aspect adds to the telicity of the verb while imperfective aspect adds to the verb's durativity. In this section I test whether verb's inner aspect gets coerced when shifting the outer aspect from perfective to imperfective. In examples discussed in this chapter, I typically used the perfective form, while in the following ones I use the imperfective form to see if there is some change in the aspect. I use *in*-adverbials and *for*-adverbials to distinguish telic verbs from atelic ones.

Verbs of continuation keep their durativity even when we change the aspect from perfective to imperfective. Native speakers consider the use of the imperfective forms of continuation existence verbs grammatical with *for*-adverbials only as in (79) and (80).

(79) ya-dˤallu al-walad-u sˤamit-an li-saʕat-in (*fi- saʕat-in)

3S.M.IMPF-remain the-boy-NOM silent-ACC for-hour-GEN (*in-hour-GEN)

"The boy remains silent for an hour."

(80) ta-bqa al-bint-u li-saʕat-in (*fi- saʕat-in)

3S.F.IMPF-stay the-girl-NOM awake-F.S-ACC for-hour-GEN (*in-hour-GEN)

"The girl stays awake for an hour."

In the following examples, I test how the telic inner aspect of these verbs may react to different types of outer aspect and tenses. In (81) I check the use of the future tense with continuation of state verbs. Native speakers' judgments accept it with *for*-adverbials only.

(81) sawfa ya-dˁallu al-walad-u sˁamit-an li-saʕat-in (*fi- saʕat-in)

Fut 3S.M.IMPF-remain the-boy-NOM silent-ACC for-hour-GEN (*in-hour-GEN)

"He will remain silent for an hour."

Similarly, the use of imperfective past with these verbs does not coerce the aspect and it remains durative. Speakers only agree on the use of *for*-adverbials with example (82).

(82) kana ya-dˁallu sˁamit-an li-saʕat-in (*fi- saʕat-in)

be.PAST.3S.M 3S.M.IMPF-remain silent-ACC for-hour-GEN (*in-hour-GEN)

"He remained silent for an hour."

Now let's examine the use of the present perfect in (83), past perfect in (84), and future perfect in (85) with these verbs. Native speakers judge (83)-(85) as grammatical only with *for*-adverbials which indicates a durative aspect.

(83) qad dˁalla sˁamit-an li-saʕat-in (*fi- saʕat-in)

already remain.PAST.3S.M silent-ACC for-hour-GEN (*in-hour-GEN)

"He has remained silent for an hour."

(84) kana qad dˁalla sˁamit-an li-saʕat-in (*fi- saʕat-in)

be.PAST.3S.M already remain.PAST.3S.M silent-ACC for-hour-GEN (*in-hour-GEN)

"He had remained silent for an hour."

(85) yakunu qad dˁalla sˁamit-an li-saʕat-in (*fi- saʕat-in)

be.3S.M.IMPF already remain.PAST.3S.M silent-ACC for-hour-GEN (*in-hour-GEN)

"He will have remained silent for an hour."

All in all, verbs of continuation stay faithful to their durativity when changing the outer aspect of the sentence they appear in.

Crosslinguistically, the progressive is incompatible with statives such as verbs of existence. Although Modern Standard Arabic does not have overt morphology on the verb to represent the progressive aspect, the imperfective form of the verb can be used to express this aspect (Aoun et al., 2010, p.26). Therefore, I adopt using imperfective forms to signify progressiveness in Arabic. The imperfective past in Arabic is roughly equivalent to the past progressive in English. Let examine the use of the stative verb *kana* "was" with this aspect. Based on native speaker intuitions, the imperfective past is incompatible with existence of state verbs as in (86).

(86) *kana yakunu saʕid-an

was be.3S.M.IMPF happy-ACC

"He was being happy."

However, the future imperfective can co-occur with statives. Native speakers accept construction (87).

(87) sawfa yakunu saʕid-an

Fut be.3S.M.IMPF happy-ACC

"He will be happy."

Interestingly, another construction that denotes the future imperfective (and roughly corresponds to the future progressive in English) is not acceptable according native speaker judgment as shown in (88).

(88) *sawfa yakunu yakunu saʕid-an

Fut be.3S.M.IMPF be.3S.M.IMPF happy-ACC

"He will be being happy."

I assume that the notion of progressiveness is stronger in sentence (88) than in sentence (87), and that is why sentence (88) is considered ungrammatical. In the same degree, a structure like (89) indicates future imperfective and is roughly equivalent to future perfect progressive in English. It cannot co-occur with statives.

(89) *sawfa yakunu qad kana saʕid-an

Fut be.3S.M.IMPF already be.PAST.3S.M. happy.ACC

"He will have been being happy."

Now let's observe the compatibility of the imperfective with positional verbs in the simple position reading. The use of the imperfective past with these verbs receive mixed responses from native speakers. In other words, speakers vary with respect to the grammaticality of example (90). Some speakers accept it, while others do not. Those who accept it say that if provided with the right context, the sentence is fully grammatical (i.e. when it is used to describe the location of an entity). However, other speakers say that it does not make sense to them.

(90) ???kana ya-qifu al-nusˁb-u al-tiðkari-u fi as-saħa-t-i

was 3S.M.IMPF-stand the-monument-NOM the-memorial-NOM in the-square-GEN

"The monument was standing in the square."

Speakers of Arabic are fine with the use of future imperfective with this verb as illustrated in (91).

(91) sawfa ya-qifu al-nusˁb-u al-tiðkari-u fi as-saħa-t-i

Fut 3S.M.IMPF-stand the-monument-NOM the-memorial-NOM in the-square-GEN

"The monument will stand in the square."

Nevertheless, this verb is incompatible with construction (92) that indicates imperfective future (and corresponds to future perfect progressive in English).

(92) *sawfa yakunu qad waqafa al-nusˁb-u al-tiðkari-u fi as-saħa-t-i

Fut be.3S.M.IMPF already stand.PAST.3S.M. the-monument-NOM the-memorial-NOM in the-square-GEN

"The monument will have been standing in the square."

8 Conclusion

This chapter explored the behavior of verbs that typically denote states (i.e., verbs of continuation and verbs of existence) and scrutinized the type of aspect connected to them. The findings of this chapter are in agreement with the findings of previous research: These two classes in Arabic are less determinate about their aspectual features and more sensitive to the characteristics of the construction they appear in. Based on the results obtained from diagnostic tests and native speaker judgment, Arabic verbs of continuation are durative, while verbs of existence are mostly stative, except for positional verbs which can vary in their inner aspect and may be telic, durative, or stative

depending on the meaning they have. Thus, verbs of existence are more inconsistent in their behavior as they are more susceptible to lexical ambiguity.

In the next chapter, I examine the behavior of durative verb classes: uncontrolled process, controlled process (motional), and controlled process (non-motional).

CHAPTER 5

DURATIVE VERBS

1 Introduction

In this chapter, I investigate the kind of aspect connected to durative verbs. Sorace (2000) divides durative verbs into three separate classes: verbs of uncontrolled process (e.g.: *cough, ring, shine, sweat, sneeze,* and *tick*) which indicate nonvolitional processes and cover a wide range of subclasses, such as: uncontrolled actions (e.g.: involuntary bodily functions), emission (of substance/light/sound/smell), and weather verbs. Then come controlled verbs of motion (e.g.: *run*, *walk*, and *swim*) which "imply a nondirected displacement of their single argument" (p.875). The last durative class is verbs of controlled nonmotional process (e.g.: *work*, *play*, and *talk*) which involve nonmotional, typically agentive processes. Following this classification, I divide Arabic verb classes into the following: Uncontrolled process, controlled motional process (I also include agentive and nonagentive verbs of manner of motion and verbs of inherently directed motion), and controlled nonmotional processes.

This chapter is organized as follows. In Section 2, durative verbs are introduced, followed by a discussion of the difference between the duratives and the punctual events. Section 3 is devoted to the notion of control. Section 4 discusses verbs of uncontrolled process. Section 5 addresses the literature on verbs of emission and verbs of motion. Section 6 delves into the behavior of Arabic uncontrolled processes and tests their compatibility with the characteristics of unergativity/durativity and unaccusativity/telicity. In Section 7, verbs of controlled motional process are presented. Section 8 explores the type of aspect associated with Arabic verbs of controlled motional

process. Section 9 discusses verbs of controlled nonmotional process. Section 10 explores the behavior of Arabic controlled nonmotional process verbs and tests their compatibility with the characteristics of unergativity/unaccusativity. Section 11 discusses the interplay between the outer aspect and duratives. The conclusion is reported in Section 12.

2 Durative Verbs

Durative verbs describe events or situations that take a certain period of time but do not have an inherent temporal endpoint. Comrie defines durativity as follows: "durativity simply refers to the fact that the given situation lasts for a certain period of time (or at least, is conceived of as lasting for a certain period of time)" (p.41). He contrasts durativity with punctuality, which is defined as "the quality of a situation that does not last in time (is not conceived of as lasting in time), one that takes place momentarily". Punctual events can be further classified into semelfactives and iteratives. Semelfactive is "a situation that takes place only once (e.g. one single cough)", whereas iterative is "a situation that is repeated (e.g. a series of coughs)". Thus, the difference between durative and punctual events/situations is that punctual are instantaneous i.e. they do not have any duration. For a full discussion of the difference see Comrie (1976, p. 41-43).

Durative aspect is typically associated with unergative verbs. Unergatives take an Agent as their basic theta roles. They can be reanalyzed as transitive verbs, maintaining their Agent and durative aspect while using their incorporated Theme (e.g., *dance*) as both a verb and Theme. The outer imperfective aspect can reinforce the durativity of the event. van Gelderen (2018) describes duratives as follows:

> Durative verbs are (minimally) unergative, e.g., *swim* and *walk*, typically incorporating a nominal Theme, as in Hale & Keyser (2002), and with an Agent theta-role. Transitive verbs, e.g., *eat* and *write*, are durative, like unergatives, except that their Theme doesn't incorporate. (p.23)

Durative inner aspect involves manner, process, duration, and unboundedness. One of the well-known diagnostics for duratives category is their acceptability to be modified by a *for* adverbial. For a full distinction between manner and result see Fillmore (1970) and Tobin (1993). van Gelderen (2018, p.35) points out that some verbs (e.g.: *eat)* will keep their durative inner aspect even when they appear in the past tense (e.g.: *ate*). Yet, we can get a telic reading by adding a small clause that indicates telicity, as in (1b), or a particle, as in (1c). In such cases, the verb becomes a change of state.

(1) a. Needless to say, they ate a baloney sandwich

b. Maybe they'll starve because they ate [themselves out of house and home].

c. The crowd ate it *all up* with relish.

As exemplified in (1bc), the lexical additions modify the inner aspect from durative to telic, whereas the outer (perfective) aspect in (1a) doesn't modify it. van Gelderen argues that the outer aspect and the lexical addition can only change the inner aspect momentarily; however, the permanent change is not really guaranteed.

3 The Notion of Control

The notion of control has been used by Smith (1970) to distinguish intransitives that permit a causative version from those that do not. Smith argues that intransitives that allow a causative version such as: *break*, *open*, …etc. denote events that are controlled by an "external cause" (Smith, 1970, p.107). On the other hand, intransitives such as: *play,*

laugh, and *speak* do not have a causative counterpart because they "cannot be externally controlled". Instead, they "can be controlled only by the person engaging in it". To put it differently, control cannot be attributed to an external causer. Smith considers the absence of the causative counterpart as evidence for internal control.

Levin & Rappaport-Hovav (1995, p.91) suggest another criterion for distinguishing these verbs, i.e., the notion of internal and external causation. They "prefer internally/externally caused verb distinction to the internal/external control distinction" (p.92). In the case of internally caused eventualities, it is the inherent property of the single argument of the verb that brings about the event. These internal properties that the verb describes could be *will, volition, emotion*, or even *physical characteristics*. Externally caused eventualities by definition suggest the existence of an "external cause" that bring about the event, such as: "an agent, an instrument, a natural force, or a circumstance" (p.92). Thus, in the case of agentive verbs like *play* and *speak*, Levin & Rappaport-Hovav contend, volition is the main inherent property that generates the action. To them, the property of volition, which differs slightly from control, is inherent to the argument of these agentive verbs. Moreover, they suggest that the concept of internal causation encompasses agency. Specifically, internally caused verbs, they propose, do not have to be agentive. Verbs like *tremble* and *blush* take an animate but nonagentive subject, yet they are considered internally caused. For instance, the verb *blush* is internally caused as it is an emotional reaction that originates from the internal properties of the verb. In addition, these verbs demonstrate that the property of control is irrelevant here. Both *tremble* and *blush* are out of the control of the argument of the verb.

Verbs that have an inanimate nonagentive subject can indicate an internally caused events i.e., these events emerge from inherent properties of the argument (Levin & Rappaport-Hovav, 1995, p.91). For example, the notion of internal causation can extend to incorporate a class of nonagentive intransitives i.e. verbs of emission. Levin & Rappaport-Hovav split up verbs of emission into four subcategories based on "what is emitted": sound, light, smell, and substance. Each subset includes members such as the following:

(2) Sound: *burble, buzz, clang, crackle, hoot, hum, jingle, moan, ring, roar, whir, whistle*

Light: *flash, flicker, gleam, glitter, shimmer, shine, sparkle, twinkle*

Smell: *reek, smell, stink*

Substance: *bubble, gush, ooze, puff, spew, spout, squirt.*

(Levin & Rappaport-Hovav, 1995, p.91)

4 Uncontrolled Process

Verbs in this group refers to non-volitional processes where the subject does not have control over the process. There are two subclasses: The first class is verbs of involuntary reaction. This class encompasses verbs of involuntary reaction that might involve motion (e.g., *shudder*, *shiver*, and *tremble*) or might not involve motion (e.g. *totter, stagger,* and *wobble*). In German, for example, both classes select *haben*. The second class is verbs of sound emission (e.g.: *rumble*, *buzz,* and *rattle*). In the same manner, these verbs typically select *haben*. In some languages (e.g.: English, German, among others), members of this class can be coerced and telicized by using a telic directional adverbial. As a result of this, the verb is rendered a directed motion verb and

the motion is interpreted as a companying the sound emission (Levin & Rappaport Hovav, 1995).

Verbs of sound emission occupy an intermediate position between unaccusatives and unergatives. Hence, they show characteristics associated with both unergative and unaccusative categories. Since these verbs are uncontrolled process, they are not clearly agentive.

5 Verbs of Emission and Verbs of Motion

Verbs of emission have received a considerable amount of attention in the literature (e.g.: Perlmutter, 1978; Levin & Rappaport-Hovav,1995; Reinhart, 2002; among others). They are typically nonagentive unergatives. Perlmutter describes them as "Non-voluntary stimuli of emission that impinge on the sense" (p.163). The behavior of verbs of manner of motion and verbs of sound emission represents an interesting phenomenon because they can be ambiguous between volitional and non-volitional readings and thus exhibit both unergative and unaccusative behavior. Levin & Rappaport-Hovav (1995) argue that verbs of manner of motion and verbs of sound emission are unergative on their basic meaning and unaccusative on their derived meaning i.e. the directed motion meaning. To put it another way, these verbs become unaccusative when they combine with a directional PP.

Verbs of manner of motion have been discussed extensively in the literature (e.g.: Hoekstra, 1984; Levin & Rappaport Hovav, 1992, 1995; Rosen, 1984, Talmy, 1975, 1985; among others). Agentive verbs of manner of motion may combine with directional prepositional phrases (PPs) and thus specify both manner and direction of motion (also

called *path*). The directed motion use of agentive verbs of manner can be found in other languages e.g.: German, Modern Hebrew, Dutch, Italian, etc.

The class of manner of motion verbs is problematic. Semantically, they describe a volitional action and this in return indicates their unergative status. On their nondirectional interpretation, agentive verbs of manner are internally caused and thus are unergative. However, they show unaccusative behavior when they appear with directional phrases (PPs). The pattern of auxiliary selection displayed by verbs of manner in Dutch, German, and Italian establishes their dual classification: They exhibit both unaccusative and unergative behavior. They normally select the auxiliary *have*, but they choose *be* in their directional motion interpretation. This characteristic is indicative of their unaccusative classification in the directed motion reading. Levin & Rappaport Hovav (1995) examine the behavior of verbs of manner of motion with respect to resultative constructions. These verbs appear in the "fake reflexive" resultative construction as in (3), which they take as evidence for their unergative status. In addition, they occur in the X's way construction as in (4), which is also another indicative of unergativity.

(3) a. He danced his feet sore.

b. Don't expect to swim/ jog yourself sober!

(4) They jumped their way clear of the vehicle. (Levin & Rappaport Hovav, 1995, p.187).

In (3) the resultative phrases indicate the result of a change of state.

Nevertheless, these verbs appear in the unaccusative resultative pattern too as in (5). The resultative phrases belong to a restricted set of adjectives, such as *free* and *clear* or to a group of adverbs such as *apart* and *together* (p.186).

(5) a. She danced/swam free of her captors.

b. They slowly swam apart.

c. However, if fire is an immediate danger, you must jump clear of the vehicle.

In the patterns above the resultative phrase indicates the result of a change in location. Consequently, the verbs in (5) are verbs of directed motion. To sum up, agentive verbs of manner of motion appear in different resultative patterns according to whether they describe directed motion or nondirected motion.

5.1 Verbs of Sound Emission

There are two subclasses verbs of sound emission: externally caused verbs (i.e., verbs that can be used transitively, such as *buzz, ring, honk, jingle,* and *clatter*) and internally caused verbs (Levin & Rappaport Hovav, 1995, p.189). Internally caused verbs of emission can be further divided into two subclasses: verbs denoting sounds emitted via the vocal tract which typically take agentive arguments and verbs indicating sounds that are not emitted via the vocal tract. Hence, verbs of sound emission can be emitted by animate/agentive subjects and inanimate/nonagentive subjects as well. Yet, in both cases internally caused verbs of sound emission are unergative (p.190). Moreover, internally caused verbs of emission usually co-occur with directional phrases and in these cases, they specify the directed motion of an entity "where the motion is necessarily characterized by the concomitant emission by that entity of a sound whose nature is lexicalized in the verb" (p.189) as shown in the following examples.

(6) The elevator wheezed upward.

(7) At that moment, a flatbed truck bearing a load of steel rumbled through the gate.

(8) The kettle clashed across the metal grid. (Levin & Rappaport Hovav, 1995, p.90)

While verbs of sound emission can be used as verbs of directed motion, not all of them can do that. Generally, when they appear with agentive subjects, they cannot shift to a directed motion meaning. That is to say, they become verbs of directed motion only with nonagentive subjects. Levin & Rappaport Hovav (1995, p.190) postulate that a verb of sound of emission must be "emitted as a necessary concomitant of the motion" in order to be used a verb of directed motion. Thus, verbs that describe sounds that are emitted via the vocal tract (e.g.: *yell*, *shout*, and *croak*) cannot take directional phrases as illustrated in (9-11).

(9) *He yelled down the street.

(10) *He shouted down the street.

(11) *The frogs croaked to the pond. (Levin & Rappaport Hovav, 1995, p.190)

Verbs of sound emission appear to show both unergative and unaccusative behavior. While internally caused verbs of sound emission are unergative, they also can shift their meaning and exhibit unaccusative behavior when they appear in the unaccusative resultative pattern as illustrated in (12).

(12) a. The refrigerator door clicked open.

b. The curtains creak open and radiant evening light streams into the cluttered room.

c. The skylight thudded open with a shower of powdery plaster and some lopsided bricks.

d. The lid of the boiler clunked shut. (Levin & Rappaport Hovav, 1995, p.191)

e. We splashed clear of the oncoming boat. (Levin & Rappaport Hovav, 1995, p.192)

These verbs can be found in resultatives only when they are predicated by inanimates, and the resultative phrase signifies a result location more than a result state. When resultative phrases denote a change of state, the sentence is ungrammatical.

(13) a.*The door banged to pieces.

b.*The curtains creaked threadbare.

c.*The skylight thudded to smithereens.

d.*The lid clunked flat. (Levin & Rappaport Hovav, 1995, p.192)

In other words, the requirements needed for a verb of sound emission to be found in the unaccusative resultative patterns are the same as those needed for a verb of manner to take directional phrases. Thus, Levin & Rappaport Hovav (1995) suggest assigning a common meaning to verbs in both classes. Levin & Rappaport Hovav's account of the dual behavior of agentive verbs of manner and verbs of sound emission assumes two entries for each single verb: a basic and a derived one. The basic entry represents the unergative meaning of the verb, whereas the derived entry gives the unaccusative meaning. The derived meaning adds the directed motion interpretation to the basic verb's meaning in the presence of a directional PP. In other terms, agentive verbs of manner and verbs of sound emission display meaning shift. They display unaccusative behavior and shift to verbs of directed motion in the presence of a directional PP as seen in (6) and repeated here as (14) for verbs of sound emission, and (15) for verbs of manner of motion.

(14) a. The elevator wheezed upward.

b. At that moment, a flatbed truck bearing a load of steel rumbled through the gate.

c. The kettle clashed across the metal grid. (Levin & Rappaport Hovav, 1995, pp.189–190)

(15) The mouse ran through the maze

To recapitulate, there is a parallel between agentive verbs of manner and verbs of sound emission in that they both can show multiple meanings and thus have directed motion senses. Levin & Rappaport-Hovav assume that this is a result of a lexical rule that maps members of these two classes onto verbs of directed motion.

6 Uncontrolled Process in Arabic

This section investigates verbs of uncontrolled process in Arabic. I examine intransitives that denote various types of uncontrolled process, mainly verbs of uncontrolled action, involuntary bodily function, and emission. The common characteristics among these subclasses is the lack of volition/control. They exhibit a low degree of volition and "a high degree of subject affectedness" (Sorace, 2000, p.877). Verbs that represent involuntary bodily functions in Arabic include verbs such as *taʕraqa* "sweated", *taqajaʔa* "vomited", *kaħa* "coughed", and *ʕatʕasa* "sneezed". The search in the corpus yielded 121 instances of *taʕraqa*, 111 examples of *taqayaʔa*, 468 instances of *kaħa*, and 327 instances of *ʕatʕasa*. As stated throughout this dissertation, languages differ in how they classify these verbs into unergatives or unaccusatives because they are located in the middle of the SIH. Therefore, they might be seen on the unergative side if the processes are emphasized or on the unaccusative side if the lack of agentivity/volitionality is emphasized. Arabic verbs of involuntary bodily functions

usually have a human but nonagentive affected subject. Thus, they are typically non-agentive durative. They are normally incompatible with agent-oriented adverbs such as *ʕamdan* "deliberately" as in (16), and (17).

(16) *ʔatˁasa al-walad-u ʕamdan

sneeze.PAST.3S.M the-boy-NOM deliberately

"The boy deliberately sneezed."

(17) *kaħa al-maridˁ-u qasˁdan

cough.PAST.3S.M the-patient-NOM intentionally-ACC

"The patient intentionally coughed."

However, this subclass can easily be construed in a way that implies volition or agentivity (18). And this is an indication of an unergative reading.

(18) kaħa al-radʒul-u qasˁd-an li-laft-i al-ʔintibah-i

cough.PAST.3S.M the-man-NOM intentionally-ACC to-draw-GEN the-attention-GEN

"The man intentionally coughed to draw attention."

Thus, the presence of agentive feature (which is not normally present since these processes are uncontrolled) could shift the status of these verbs into an unergative one. As seen, these verbs are ambiguous between an unaccusative reading as in (16) and (17) and an unergative reading as in (18). But a clear agentive feature could help disambiguate between those two meanings.

Interestingly, some verbs of involuntarily body reactions can be transitivized as in (19) and (20). This behavior implies a presence of agentivity in performing the action. Thus, the argument is more of an agent here.

(19) taqajaʔa ma ʔakal-hu

vomit.PAST.3S.M what eat.PAST.3S.M-it

“He vomited what he ate.”

(20) taqajaʔa al-damm-a

vomit.PAST.3S.M the-blood-ACC

“He vomited blood.”

This behavior is not unexpected given their intermediate position among intransitive classes. They show overlap between unergative and unaccusative behavior. Thus, they also can be unaccusative with a Theme argument. And in such a case they cannot add another Theme to their VP. Either way, they can combine with a cognate object.

(21) ʕatˁasa ʕatˁsa-an qawij-an

sneeze.PAST.3S.M sneeze-ACC strong-ACC

“Literally: He sneezed a strong sneeze.”

(22) kaħa al-maridˁ-u kaħa-t-an

cough.PAST.3S.M the-sick.person-NOM cough-F.S-ACC

“Literally: The sick person coughed a cough.”

This subclass cannot appear in the imperative mood. This test corroborates their non-agentive unaccusative reading.

(23) *ʔuʕtˁus bi-surʕa-t-in!

Sneeze with-speed-F.S-GEN

“Sneeze quickly!”

(24) *kuħ bi-ħaðar-in!

cough with-care-GEN

“cough carefully!”

Now let’s examine the compatibility of verbs of involuntarily body reactions with *for*-adverbials and *in*-adverbials. These verbs are compatible with *for*-adverbials which indicates a durative aspect, but not with *in*-adverbials as in (25).

(25) kaħa al-maridˤ-u li-saʕa-at-in *(fi saʕa-at-in)

cough.PAST.3S.M the-patient-NOM for-hour-F.PL-GEN *(in-hour-F.PL-GEN)

“The patient coughed for hours.”

In this section I delve into the behavior of verbs of sound emission in Arabic (e.g.: *sˤaraxa* “yelled, shouted”, *zammar* “beeped”, *tanahada* “sighed”, *qaraʕa* “chimed”, *taqtaqa* “clicked”, *tˤanna*, “buzzed”, and *ranna* “rang”). Verbs of sound emission in Arabic show both unaccusative and unergative behaviors. Some of them take an animate/agentive subject i.e. if they are emitted by animate subjects (e.g.: *sˤaraxa* “yelled, shouted”), while others take inanimate/nonagentive subject (e.g.: *tˤanna*, “buzzed” and *ranna* “rang”). As expected, when the argument is agentive the verb is compatible with agent-oriented adverbs as illustrated in (26).

(26) sˤaraxa fi wadʒh-i-hi ʕamdan li-yuxifa-hu

shout.PAST.3S.M in face-GEN-him deliberately to-scare-him

“He deliberately shouted at me to scare him.”

This verb cannot add a real object as shown in (27), and this can be used as evidence for an unaccusative classification. Nevertheless, it can take a cognate object as in (28).

(27) *sˤaraxa-hu

shout.PAST.3S.M-him

"He shouted him."

(28) sˤaraxa sˤrxa-t-an mudwija-t-an

shout.PAST.3S.M shout-F.S-ACC loud-F.S-ACC

"He shouted loudly."

The use of the imperative is acceptable to native speakers when the subject is agentive as in (29). This test suggests that this class can have agentive meanings too.

(29) la ta-sˤrux fi wadʒh-i

No 2S.M.IMPF-shout in face-me

"Do not yell at me."

In the following example, I study the compatibility of verbs of sound emission with *for*-adverbials and *in*-adverbials in order to examine their inner aspect. Arabic native speakers only accept *for*-adverbials with these verbs, which is a clear indication of their durativity.

(30) sˤaraxa li-mudati saʕa-at-in *(fi saʕa-at-in)

shout.PAST.3S.M for-period hour-F.PL-GEN *(in hour-F.PL-GEN)

"He shouted for hours."

Now let's observe the behavior of these verbs when their single argument is nonagentive. When the subject lacks intentionality, verbs of sound emission are incompatible with agent-oriented adverbs as shown in (31), (32), and (33).

(31) *ranna al-hatif-u ʕamdan

ring.PAST.3S.M the-telephone-NOM deliberately

"The telephone rang deliberately."

(32) *tanna-t al-ħaʃara-t-u ʕamdan

buzz-PAST-3S.F the-insect-F.S-NOM deliberately

"The insect deliberately buzzed."

(33) *naqa al-dˁifdaʕ-u qasˁdan

croak.PAST.3S.M the-frog-NOM intentionally

"The frog intentionally croaked."

Another indication of the unaccusative classification of some verbs of emission comes from the fact that certain verbs (e.g.: *daqa* "rang") can alternate as causatives. This also shows that this verb is an externally caused unaccusative i.e. it has an external Causer.

(34) daqa dʒaras-u al-bab-i

ring. PAST.3S.M bell-NOM the-door-GEN

"The doorbell rang."

(35) daqa al-walad-u dʒaras-a al-bab-i

ring.PAST.3S.M the-boy-NOM bell-ACC the-door-GEN

"The boy rang the doorbell."

On the other hand, internally caused unaccusatives, such as *naqa* "croaked", do not normally appear in the causative alternation. Specifically, these verbs can only have a Theme argument and cannot add a Causer. Moreover, verbs of sound emission cannot take a real object and cannot be used in the imperative form as in (36).

(36) *duq ajuha al-dʒaras-u

ring you the-bell-ACC

"Ring, bell!"

In order to obtain a clear picture of the status of these verbs, let's investigate the compatibility of verbs of sound emission with *for*-adverbials and *in*-adverbials, when the

subject is nonagentive. Arabic native speakers judge the following example as grammatical with *for*-adverbials only.

(37) ranna al-hatif-u li-mudat-i saʕa-at-in *(fi saʕa-at-in)

ring.PAST.3S.M the-telephone-NOM for-period-GEN hour-F.PL-GEN *(in hour-F.PL-GEN)

"The phone rang for hours."

As you can see, verbs of sound emission in Arabic pass the durativity diagnostic, so they are duratives. However, they are uncontrolled processes, so they also show unaccusative behaviors. Yet, they are sensitive to the animacy (and the agentivity) of the subject. When they are used with agentive subjects, they are more toward the unergative side (*i.e.,* they can be used with *deliberately* and can occur in the imperative form); however, they cannot add a real object, which suggests that their single argument is more of a Theme and not an Agent. In other words, the semantics of this class of verbs implies a Theme argument. Specifically, the argument of the verb lacks intentionality in doing the action. Nevertheless, in the case of verbs of sound emission the durative aspect takes precedence over everything else, and therefore it makes the verbs unergatives across languages, such as French, Dutch, and German, and thus verbs of emission in such languages take "*have*" and avoid "*be*".

To summarize, verbs of sound emission in Arabic occupy an intermediate position between unaccusatives and unergatives and select a durative aspect. As you see, these verbs fluctuate between an unaccusative and unergative classification. However, in Arabic they are more into the unaccusative side of the SIH. These verbs are less

consistent in their behavior than controlled motional process and controlled nonmotional process.

7 Controlled Motional Process

Verbs in this class are atelic. They denote "a process of non-directed displacement and describe manner of motion" (Keller & Sorace, 2003, p.70). The subject of these verbs is an agent that has control over the event, but it gets affected by the process. Hence, subject affectedness manifestly plays a role and makes these verbs *noncore unergative*. Motion verbs are unergative in French, Italian, and Dutch i.e., they select *have*, whereas in German they tend to select *sein* "be" even in the absence of a directional phrase that telicizes the predicate as indicated in (38).

(38) Die Frau ist\?hat schnell geschwommen.
the woman is\has rapidly swum
"The woman swam rapidly."

In general, motion verbs are divided between unergatives and unaccusatives. They can denote a change in location and in this case, they are (unaccusative), or they can specify a controlled motional process and hence they are (unergative). Talmy (1985) divides languages into those with motion verbs that specify a path and others with motion verbs that indicate a manner of an event. English motion verbs usually encode a manner of motion plus a particle or an adverb that indicate the path (van Gelderen, 2018, p.94). In fact, motion verbs can be ambiguous between indicating a path or a manner. For instance, with verbs such as *climb*, *fall* and *kneel* it is difficult to decide whether these verbs describe a manner and path as they actually express both. The verb *climb* indicates both manner (using hands and feet) and an upward path.

Similarly, the verbs *fall* and *kneel* express manner (*fall* using full body and *kneel* using knees) and a downward path. van Gelderen (2018) argues that motion verbs are more resilient in English and that they are renewed frequently. In the following examples, the English manner-of-motion verb "dance" can combine with an activity adverbial "for hours", e.g. (39), or a directional PP "to the park" as in (40).

(39) He danced for hours. (van Gelderen, 2018, p.94)

(40) John danced to the park (in an hour).

7.1 Motion Verbs

Levin & Rappaport-Hovav (1995, p.111) differentiate between two groups of verbs of motion: verbs of manner and verbs of directed motion (also called *path* verbs). Verbs of manner (e.g.: *roll*, *walk*, *swim* and *bounce*) describe a manner of motion. In contrast, verbs of directed motion (*e.g.*: *arrive*, *rise*, *fall*, *come* and go) describe a direction of motion. Verbs of manner of motion can be further divided into two subgroups: Agentive verbs of manner (also called the *run* class) and nonagentive verbs of manner (also called the *roll* class). Nonagentive verbs of manner (e.g.: *roll*, *bounce,* and *spin*) are in fact unaccusative. In contrast, agentive verbs of manner (e.g.: *jog, run, stroll, swim*, and *walk*) are unergative (Levin & Rappaport-Hovav, 1995, p.148).

Verbs of inherently directed motion are unaccusative across many languages. Levin & Rappaport-Hovav present the following data that support the unaccusative classification of verbs of manner: the resultative constructions, the X's way constructions, and the auxiliary selection. Basically, verbs of directed motion take the auxiliary "*be*" across languages. For instance, they choose *essere* "be" in Italian and *izan*

"be" in Basque. In English these verbs are incompatible with cognate objects as illustrated in the below examples from Levin & Rappaport-Hovav (1995, p.148).

(41) *She arrived a glamorous arrival.

(42) *The apples fell a smooth fall.

Resultative constructions cannot combine with the inherently directed motion verbs. Furthermore, they are incompatible with X-ways constructions which suggest that they are unaccusative.

(43) a. *The oil rose its way to the top.

b.*The apples fell their way into the crates.

c.*She arrived her way to the front of the line.

7.2 Agentive and Nonagentive Verbs of Motion

In this section, I introduce the *run* verbs (also called *agentive verbs of manner*). Agentive verbs of manner are a subclass of verbs of manner. They are called so because they usually occur with animate agentive argument. They can also be identified as internally caused verbs.

On the other hand, the *roll* verbs (also called *non-agentive verbs of manner*) are the other subclass of verbs of manner. These verbs combine with an argument that is not necessarily agentive. They are compatible with animate and inanimate subjects. However, when they take animate subjects, they allow both agentive and nonagentive readings. Nevertheless, the nonagentive sense is more common, even with animate arguments. As shown in (44).

(44) Max rolled down the hill. (Jakendoff, 1972, p.34)

The above sentence is ambiguous i.e., it can be interpreted in two different ways. The first reading is that the subject (Max) is the agent who is deliberately rolling down the hill. The second meaning is that he is not an agent but a theme that undergoes the action (i.e. rolls down the hill) because of an external causer such as a push, or due to gravity. When this verb takes an animate subject, it is typically internally caused if the argument is agentive and externally caused when it is nonagentive. Furthermore, when they are internally caused, they behave like agentive verbs of manner of motion (e.g.: *run* and *swim*). However, what distinguishes *roll* class from agentive verbs of manner is that it is not agentive by its very definition. Thus, verbs from the *roll*-class are unergative when they take an animate agentive subject, whereas they are unaccusative when combine with an inanimate nonagentive argument. When it takes an inanimate argument, it can appear in the unaccusative resultative pattern, but not in the unergative pattern or the X's way construction (p.209). On the other hand, when it takes animate agentive subject, it can appear in the unergative resultative pattern and in the X's way construction. A further indication of the variable nature of the *roll* verbs in English emerges from their behavior with the prepositional passive construction. When the verb takes an animate agentive argument, it can appear in the prepositional passive construction as illustrated in the following examples (p.210).

(45) The carpet has been rolled on by three generations of children.

(46) This track has been run on by our finest young athletes.

Agentive verbs of manner can be contrasted with nonagentive verbs of manner in their behavior. Particularly, agentive verbs of manner show an unergative pattern *i.e.* they appear in constructions that are typically compatible with unergative verbs. For instance,

they occur in resultative constructions with a fake reflexive or a non-subcategorized direct object, they appear in the X's way constructions, and they normally do not participate in the unaccusative/causative alternation. In addition, in Italian agentive verbs of manner select the auxiliary *avere* in the absence of a directional phrase (Levin & Rappaport-Hovav, 1995, p.185-189). Nevertheless, in the presence of a directional phrase (PP), these verbs show unaccusative behaviors. Specifically, they select *essere* in Italian, appear in the unaccusative resultative pattern, and participate in the unaccusative/causative alternation (Levin & Rappaport-Hovav, 1995, p.186-188). In the following section I discuss their behavior with examples.

In English, a strong piece of evidence that supports the dichotomy between these two subclasses of manner verbs comes from the resultative construction. Only agentive verbs of manner are compatible with resultative constructions while nonagentive ones are not. In examples (47)-(50), agentive verbs of manner show an unergative pattern, whereas nonagentive ones display an unaccusative pattern.

(47) a. The jogger ran his soles thin.

b. Don't expect to swim yourself sober!

(48) a.*The jogger ran sore.

b. *Don't expect to swim sober!

(49) a. The door rolled open.

b. The shutter swung shut.

(50) a. *The door rolled itself open.

b.*The shutter swung itself shut. (Levin & Rappaport-Hovav, 1995, p.155-156).

Another piece of evidence that supports this difference arises from the X-ways construction. In English, only agentive verbs of manner can appear with the X-ways constructions, while nonagentive verbs of manner cannot

(51) a. The jogger ran his way to better health.

b. Swim your way to a new you.

(52) a.*The pebbles rolled their way into the stream

b.*The ball bounced its way into the street.

(Levin & Rappaport-Hovav, 1995, p.155-156).

Moreover, another indication of the different status of these two subclasses emerges from the unaccusative/causative alternation. Only nonagentive verbs of manner show causative alternation as in (53).

(53) a. The ball rolled/bounced.

b. The child rolled/bounced the ball.

Hale & keyser (1987) indicate that crosslinguistically agentive verbs of manner do not participate in unaccusative alternation, while nonagentive ones do (p.156).

(54) a. The runner jogged all day.

b.*The coach jogged the runner all day.

(55) a. The tourists wandered around the Roman ruins.

b.* The guide wandered the tourists around the Roman ruins.

(Levin & Rappaport-Hovav, 1995, p.156)

However, in the presence of a directional phrase, some agentive verbs may display causative uses as shown in the following examples. Nevertheless, their causative

use is different from the causative use of the typical unaccusatives. Therefore, their alternation doesn't change their classification as unergative verbs.

(56) a. The soldiers marched (to the tents).

b. The general marched the soldiers (to the tents).

c. ??The general marched the soldiers.

(57) a. The horse jumped (over the fence).

b. The rider jumped the horse over the fence.

c. ?The rider jumped the horse.

(58) a. The mouse ran (through the maze)

b. We ran the mouse through the maze.

c. *We ran the mouse.

(Levin & Rappaport-Hovav, 1995, p.111)

They justify their appearance in the causative alternation as follows: "the referent of the direct object …. maintains a degree of agentiveness that is uncharacteristic of the objects of the verbs that usually participate in the causative alternation or the objects of transitive verbs in general" (p.111). Pinker (1989) indicates that the PP is optional when the agentive verbs of manner are used intransitively, while it is obligatory when the verbs are used transitively.

Agentive verbs of manner are not the only internally caused that can alternate as causatives. In fact, some nonagentive internally caused verbs can appear in the unaccusative/causative alternation as well. The causative pairs can be found among verbs of emission and mainly among verbs of sound emission as shown in the following examples taken from Smith (1970, p.107) and Levin & Rappaport-Hovav (1995, p.115).

(59) a. The baby burped.

b. The nurse burped the baby. (Smith, 1970, p.107)

(60) a. The door buzzed/rang.

b. The postman buzzed/rang the door.

(61) a. The flashlight beamed/shone.

b. We beamed/shone the flashlight.

(Levin & Rappaport-Hovav, 1995, p.115)

Two verbs of involuntarily bodily reaction have been discussed in the literature as being able to participate in the causative alternation. Smith (1970) mentions that the verb *burp* participates in the causative alternation only with certain types of transitive objects as illustrated in the following examples. Hence, there are restrictions on the choice of transitive objects.

(62) a. The baby burped.

b. The nurse burped the baby.

(63) a. The doctor burped

b. *The nurse burped the doctor. (Smith, 1970, p.107)

Besides *burp*, another verb denoting bodily process/reaction i.e. *bleed* shows a similar behavior (Levin & Rappaport-Hovav, 1995, p.116). However, like in the case of *burp*, it only participates in the causative alternation in a very restricted sense as in (64).

(64) a. The patient bled.

b. the doctor bled the patient.

Unlike *burp* and *bleed*, other internally caused bodily process verbs don't typically exhibit causative uses. As mentioned earlier in this chapter, some emission verbs can

appear in the causative pairs. For example, the causative alternation can be seen throughout verbs of light emission (e.g.: *beam*, *shine*, and *flash*) and some verbs of sound emission (e.g.: *buzz, ring, chatter, clink, jingle, rattle, rustle,* and *roll*). However, the number of sound emission verbs that can be found in the causative pairs is limited because there are some restrictions with respect to what type of verb can participate in the alternation *i.e*., the notions of internal and external causation. Specifically, when the sound is internally caused, the verb does not occur in the causative use, while when the sound is externally caused, the verb appears in the causative use.

According to Levin & Rappaport-Hovav (1995), another piece of evidence indicating the different status of verbs of manner in English arises from the prepositional passive construction. Agentive verbs of manner allow prepositional passive constructions while nonagentive verbs of manner do not (p.157) as illustrated in (65)-(67).

(65) a. The track has been run on by our finest young athletes.

b. The pool has been swum in by the last three world record holders.

(66) *This golf course has been bounced on by only the golf balls

(67) *This floor has been bounced on by every type of ball imaginable.

Additional support for the different status of agentive and nonagentive verbs of manner comes from Italian. Just like English, Italian classifies agentive verbs of manner and nonagentive verbs differently. The two classes can be distinguished from each other via their morphological shape and their auxiliary selection. The nonagentive verbs of manner (or the *roll* verbs) show unaccusative behavior and select the auxiliary *avere* "be". On the other hand, the agentive verbs of manner (or the *run* verbs) exhibit

unergative behavior and don't take the auxiliary *avere.* See Levin & Rappaport-Hovav (1995, p.157-158) for more details.

(68) a. La palla e rotolata sul prato.

the bell is rolled on the meadow

"The ball rolled on the meadow."

b. *Gianni e corso.

Gianni is run

8 Controlled Motional Process in Arabic

In this section, I examine the status of Arabic motion verbs and test their compatibility with the unaccusativity/unergativity diagnostics. Like in other languages, Arabic manner verbs specify the manner of motion. Arabic verbs of manner can be subdivided into agentive and nonagentive ones. Agentive verbs of manner in Arabic includes verbs such as *rakadˤa* "ran", *sabaħa* "swam", *maʃa* "walked", *harwala* "jogged", etc. Nonagentive verbs of manner in Arabic encompass verbs such as *tadaħradʒa* "rolled", ʔirtada "*bounced",* and *dara* "spun".

In Arabic agentive verbs of manner are unergative with a durative aspect. They have an agent as their main argument. Verbs in this subclass are compatible with agent-oriented adverbs (e.g.: *qasˤdan* "intentionally" and *ʕamdan* "deliberately") which is a diagnostic for unergative verbs. For instance, the verb *rakadˤa* "ran" which occurred 2,674 times in the corpus, is compatible with these adverbs.

(69) rakadˤa ʕamdan li-ya-ltaqiaðˤa al-kura-t-i

run.PAST.3S.M deliberately to-3S.M.IMPF-catch the-ball-F.S-ACC

"He deliberately ran to catch the ball."

(70) sabaħa bi-qasˁd-i ʔan ja-xsra wazn-an

swim.PAST.3S.M with-intent-GEN that 3S.M.IMPF-lose weight-ACC

"He intentionally swam to lose weight."

Agentive verbs of manner of motion can be transitivized. This shows that they are unergatives with an Agent argument. Accordingly, they can add a Theme to their VP as indicated in (71) and (72).

(71) rakadˁa al-rijadˁi-u kilomitr-an waħd-an

run.PAST.3S.M the-athlete-NOM kilometer-ACC one-ACC

"The athlete ran one kilometer."

(72) sabaħa-t ðalaða-t-a amjal-in

swim.PAST-3S.F three-F.S-ACC miles-GEN

"She swam three miles."

Furthermore, they can combine with a cognate object as shown in the following examples.

(73) rakadˁa rakdˁ-an sarijʔ-an

run.PAST.3S.M running-ACC fast-ACC

"He runs fast."

(74) sabaħa-t sibaħ-t-an tˁawila-t-an

swim.PAST-3S.F swimming-F.S-ACC long-F.S-ACC

"She swims a long distance."

Moreover, when verbs of manner are agentive (i.e., the agent intends the action/event), it is expected that they occur in the imperative form. This characteristic supports the

unergativity of this subclass and the agentivity of the subject. Native speakers agree on the grammaticality of the following examples, (75) and (76).

(75) ʔirkudˁ bi-surʕa-t-in

run with-speed-F.S-ACC

"Run fast!"

(76) ʔisabaħ fi al-nahr-i

swim in the-river-GEN

"Swim in the river!"

Now let's take a closer look at the type of the inner aspect that accompanies these verbs. In order to identify the type of aspect accompanies this subclass, I observe the verbs compatibility with *for*-adverbials. The corpus search yielded 51 instances of the verb *sabaħa* "swam". It occurred 4 times (8%) modified by a *for*-adverbial. In addition, judgement obtained from native speakers reflects the grammaticality of the following examples. They can combine with *for*-adverbials which indicate a durative aspect, but not with *in*-adverbials as in (77) and (78).

(77) rakadˁa xalid-un li-muda-t-i saʕa-t-in *(fi saʕa-t-in)

run.PAST.3S.M Khalid-NOM for-period-F.S-GEN hour-F.S-GEN *(in hour-F.S-GEN)

"Khalid ran for an hour."

(78) sabaħa aħmad-un li-muda-t-i nisˁf-i saʕa-t-in *(fi nisˁf-i saʕa-t-in)

swim.PAST.3S.M Ahmad-NOM for-period-F.S-ACC half-GEN hour-F.S-GEN *(in half-GEN hour-F.S-GEN)

"Ahmad swam for half an hour."

Like in many other languages, verbs of motion are sensitive to the agentivity of the subject. Subsequently, when the subject is not deliberately performing the action, their behavior with respect to the unergative/unaccusative diagnostics is different as we will see *i.e.,* in this case they behave as unaccusatives. In this section, I explore the behavior of verbs of manner when the subject is nonagentive. The following test is whether or not nonagentive verbs of manner can appear with adverbs indicating agentivity (e.g., deliberately). The use of these adverbs with inanimate subjects is not acceptable with as in (79). This is evidence towards an unaccusative classification of this subclass of verbs of manner.

(79) *tadaħradʒa-t al-kura-t-u bi-ʕinaja-t-in
roll.PAST-3S.F the-ball-F.S-NOM with-care-F.S-ACC
"The ball carefully rolled."

Furthermore, nonagentive verbs of manner of motion cannot be transitivized as they are unaccusative and their VP is already filled up with a Theme argument as in (80).

(80) *tadaħradʒa-t al-bin-t-u auxt-a-ha
roll.PAST-3S.F the-girl-F.S-NOM sister-ACC-her
"The girl rolled her sister."

Nonagentive verbs of manner of motion can combine with a cognate object as indicated in (81). This behavior does not contradict with their unaccusative nature because the cognate object is not a real object/theme.

(81) tadaħradʒa-t al-kura-t-u daħradʒa-t-an batˤia-t-an
roll.PAST-3S.F the-ball-F.S-NOM roll-F.S-ACC slow-F.S-ACC
"The ball rolled slowly."

The following test is whether or not nonagentive verbs of manner can appear in the imperative form. The result is illustrated in (82).

(82) *tadaħradʒ bi-surʕa-t-in

roll with-speed-F.S-ACC

"Roll quickly."

According native speaker judgment, the use of imperative form is not compatible with nonagentive verbs of manner as the main argument lacks volition. This evidence supports an unaccusative analysis of these verbs.

Nonagentive verbs of motion are unaccusative verbs that indicate a change of location. Therefore, they are telic. Based on judgments obtained from native speakers, the verb *tadaħradʒa* "rolled" can be modified by *in*-adverbials only as in (83).

(83) tadaħradʒa al-tˤifl-u ʔala al-daradʒ-i fi daqiqa-t-in *(li-muda-t-i daqiqa-t-in)

roll.PAST.3S.M the-child-NOM on the-stairs-GEN in minute-F.S-GEN *(for-period-F.S-GEN minute-F.S-GEN)

"The child rolled on the stairs in a minute."

Verbs of nonagentive manner of motion in Arabic can easily combine with directional phrases as in (84). Once they appear with these phrases, they can combine with the telic *in*-adverbials.

(84) ʔirtada-t al-kura-t-u fi al-ʃabaka-t-i fi ðanija-t-in

bounce.PAST-3S.F the-ball-F.S-NOM in the-net-F.S-GEN in second-F.S-ACC

"The ball bounced into the net in a second."

As seen from the above data, agentive verbs of manner in Arabic are durative, whereas nonagentive verbs of manner tend to be telic. In other words, agentive ones are unergatives, while nonagentive ones behave as unaccusatives.

Verbs of directed motion (*e.g.*: *wasala* "arrived", *ʔirtafaʕa* "rose", *saqata* "fell, *dʒaʔa* "came" and *θahaba* "went") describe a direction of motion. Most these verbs are unaccusatives with a telic aspect and have been discussed in Chapter 3 as change of location or change of state verbs, except *dʒaʔa* "came" and *θahaba* "went". These two verbs are ambiguous between unaccusative and unergative classifications. Their behavior with respect to unergativity/unaccusativity diagnostics is a little fuzzy as they can be categorized as both change of location and motion verbs. In Arabic, *dʒaʔa* "came" is a controlled motion verb if the subject is agentive. In this case, it is compatible with adverbs of agentivity as in (85).

(85) dʒaʔa tˁawʕan li-yu-saʕida-ni
come.PAST.3S.M voluntarily to-3S.M.IMPF-help-me
"He voluntarily came to help me."

When agentive, the verb *dʒaʔa* "came" is considered unergative and takes an Agent as its basic argument. Therefore, a Theme can be added to its VP as in (86). Furthermore, the use of the cognate object is accepted as in (87).

(86) dʒaʔa-ni dˁaif-un
come.PAST.3S.M-me guest-NOM
"Literally: A guest came to me."

(87) dʒaʔa madʒjaʔ-an ħasan-an
come.PAST.3S.M coming-ACC good-ACC

"Literally: He came in a good way."

In addition, the use of the imperative form is grammatical. Native speakers accept the following sentence. Hence, the verb *dʒaʔa* passes this test when the subject is agentive as in (88).

(88) dʒiʔa-ni fi al-sˁabaħ-i

come-me in the-morning-ACC

"Come in the morning."

Let's turn to *θahaba* "went". This verb shows a more variable behavior than *dʒaʔa* "came". The verb *ðahaba* is a controlled motion verb if the subject is agentive. In this case, it is compatible with adverbs of agentivity as in (89).

(89) ðahaba ʔilaj-hi tˁawʕan

go.PAST.3S.M to-him voluntarily

"He willingly went to him."

In order to understand better whether this verb is unergative or unaccusative, let's examine if it can add a theme. Interestingly, it does not accept transitivizing. This shows that the main argument is more of a theme-like as in (90).

(90) *ðahaba sadiqa-hu

go.PAST.3S.M friend-him

"He went his friend."

Now let's observe if this verb can co-occur in the imperative form. Native speaker judgement and corpus data confirm this compatibility as in (91).

(91) ʔiðhab ʔila haða al-radʒul-i

go to this the-man-GEN

"Go to this man."

In the case of *ðahaba*, it passes some tests and fails others. This behavior shows that the binary classification of intransitives into unergatives or unaccusatives is not enough to account for the status verbs of motion. Instead, the tripartite classification of verbs into telic, durative, and stative is more efficient, i.e., it helps classifying them in a better way.

Now let's examine the use of *in*-adverbials and *for*-adverbials with *dʒaʔa* "came" and *θahaba* "went". Based on native speaker intuition, these two verbs of directed motion can only be modified by *in*-adverbials as in (92) and (93). This test shows that these verbs are compatible with a telic reading only.

(92) dʒaʔa fi saʔa-t-in *(li-muda-t-i saʔa-t-in)

come.PAST.3S.M in hour-F.S-ACC *(for-period-F.S-GEN)

"He came in an hour."

(93) ðahaba ʔila al-maktaba-t-i fi saʔa-t-in *(li-muda-t-i saʔa-t-in)

go.PAST.3S.M to the-office-F.S-GEN in hour-F.S-GEN *(for-period-F.S-GEN hour-F.S-GEN)

"He went to the library in an hour."

The *Arabicorpus* has 68,591 instances of the verb *dʒaʔa* "came", with 17,713 (26%) combined with PPs, and some instances with *for*-adverbials. Likewise, there are 55,351 instances of *ðahaba* "went" in the corpus, with 15,087 (27%) combined with PPs. There are some instances of it combined with *in*-adverbials, but no instances combined with *for*-adverbials. These results suggest that both verbs involve telicity but not duration.

9 Controlled Non-motional Process

These verbs signal non-motional, agentive processes. They are the most determined class with respect to their auxiliary selection. They select *have* across many languages. Verbs in this class are insensitive to telic delimiters that specify the boundary of the event. Hence, they typically don't get affected by the characteristics of the predicate or the sentence they appear in. Even though these verbs are agentive, they can still take a nonagentive subject sometimes. Semantically, this class implies that the subject deliberately intends the action. These verbs are considered core unergative as they show the most determinate unergative behaviors. Controlled nonmotional process verbs are at the unergative extreme of the Sorace hierarchy and thus are not susceptible to multiple interpretations. In other words, they are compatible with only one lexical/structural meaning. This rigidity is reflected in Western European languages by their lack of alternation in auxiliary selection. On the other hand, verbs in the middle of the hierarchy are more flexible and allow multiple interpretations because they are associated with a wider range of structural configurations. Therefore, they are indetermined in auxiliary selection.

10 Controlled Non-motional Process in Arabic

In this section, I examine the type of aspect associated with Arabic controlled nonmotional process. I conduct the same diagnostic tests proposed crosslinguistically for the purpose of recording the behavior of these verbs. In addition, I use native speaker judgment when needed. This class in Arabic is unergative with a durative aspect. For instance, verbs such as *ʕamila* "worked", *laʕiba* "played", and *taħadaθa* "talked", which are controlled nonmotional process, are unergative/durative. Native speakers approve of

the use of the adverb *ʕamdan* “deliberately” with these verbs. This shows that the subject is agentive and has control over the event and as in (94).

(94) ʕamila-t al-bint-u tawʕan

work.PAST-3S.F the-girl-NOM voluntarily

“The girl voluntarily worked.”

(95) laʕiba maʕa al-tˤifl-a bi-ʕinaijat-in

play.PAST.3S.M with the-child-GEN with-care-GEN

“He carefully played with the child.”

(96) taħadaθa al-ɣarib-u bi-sˤot-in xafit-in qasˤdan

talk.PAST.3S.M the-stranger-NOM with-voice-GEN low-GEN intentionally

“The stranger intentionally talked in a low tone.”

Another piece of evidence for an unergative classification of this class in Arabic arises from the fact that they can take a real object as shown in (97)-(99).

(97) ʕamila-t al-bint-u ʃaija-an

work.PAST-3S.F the-girl-NOM thing-ACC

“The girl did something.”

(98) laʕiba al-atˤfal-u kura-t-a al-qadam-i

play.PAST-3S.M the-children-NOM ball-F.S-ACC the-foot-GEN

“The children played football.”

(99) taħadaθa al-luɣat-a al-ʕarabija-t-a

talk.PAST-3S.M the-language-ACC the-Arabic-F.S-ACC

“He talked in Arabic.”

In addition, these verbs can occur as imperatives. This indicates that they are unergative and involve volitional initiators of the events. Native speakers accept the use of the imperative forms of these verbs as in (100)-(102).

(100) ʔiʕmal bi-dʒid-in

work with-seriousness-GEN

"Work hard."

(101) ʔilʕab bi-ħamas-in

play with-enthusiasm-GEN

"Play enthusiastically."

(102) ʔiðhab wa taħadaθ ʔilaj-ih

go and talk to-him

"Go and talk to him."

Now let's evaluate the compatibility of these verbs with *for*-adverbials and *in*-adverbials as well. They can only be modified by *for*-adverbials which proves that their lexical aspect is durative. The search for the verb *ʕamila* "worked" in the corpus returned 41,616 instances and was modified by *limudati* "a for-adverbial" 11 times (0.03%) as in (103). The verb *laʕiba* "played" occurred in the corpus 44,085 times, and was modified by *tˁiwala* "a *for*-adverbial"17 times (0.04%) and by *limudati* "a *for*-adverbial" 22 times (0.05%) as in (104). The verb *taħadaθa* "talked" occurred in the corpus 72,112 times and was modified by *limudati* "a *for*-adverbial"13 times (0.02%) as in (105).

(103) ʕamila-t al-bint-u li-mudat-i saʕa-at-in *(fi saʕa-at-in)

work.PAST-3S.F the-girl-NOM for-period-GEN hour-F.PL-GEN *(in hour-F.PL-GEN)

"The girl worked for hours."

(104) laʕiba al-atˁfal-u li-mudat-i saʕa-t-in *(fi saʕa-t-in)

play.PAST.3S.M the-children-NOM for-period-GEN hour-F.S-GEN*(in hour-F.S-GEN)

"The children played for an hour."

(105) Taħadaθ al-muʕalim-u li-daqaʔiq-a *(fi daqaʔiq-a)

Talk.PAST.3S.M the-teacher-NOM for-minutes-GEN *(in minutes-GEN)

"The teacher talked for minutes."

Based on the results obtained from the diagnostic tests above, verbs of controlled nonmotional process in Arabic are unergative with a durative aspect.

11 The Outer Aspect and Durative Verbs

In this section, I test whether verb's inner aspect gets coerced when shifting the outer aspect from perfective to imperfective. In examples discussed in this chapter, I typically used the perfective form, while in the following ones I use the imperfective form to see if there is some change in the aspect. I use *in*-adverbials and *for*-adverbials to distinguish telic verbs from durative verbs. Verbs of uncontrolled process keep their durativity even when we change the aspect from perfective to imperfective. Native speakers consider only the use of the imperfective forms of uncontrolled process verbs grammatical with *for*-adverbials as shown in (106) and (107).

(106) ya-kiħu al-maridˁ-u li-saʕa-at-in *(fi saʕa-at-in)

3S.M.IMPF-cough the-patient-NOM for-hour-F.PL-GEN*(in-hour-F.PL-GEN)

"The patient coughs for hours."

(107) ya-sˁruxu li-mudati saʕa-at-in *(fi saʕa-at-in)

3S.M.IMPF-shout for-period hour-F.PL-GEN *(in hour-F.PL-GEN)

"He shouts for hours."

In the following examples, I see how the durative inner aspect of these verbs may react to different types of outer aspect and tenses. In (108) I check the use of the future tense with this class of verbs. Native speakers' judgments accept it with *for*-adverbials only.

(108) sawfa ya-sˁruxu li-mudati saʕa-at-in *(fi saʕa-at-in)

3S.M.IMPF-shout for-period hour-F.PL-GEN *(in hour-F.PL-GEN)

"He was shouting for hours."

In the same fashion, the use of imperfective past with these verbs does not coerce the aspect and it remains durative. Speakers only agree on the use of *for*-adverbials.

(109) kana ya-sˁruxu li-mudati saʕa-at-in *(fi saʕa-at-in)

was 3S.M.IMPF-shout for-period hour-F.PL-GEN *(in hour-F.PL-GEN)

"He was shouting for hours."

Now let's examine the use of the present perfect in (110), past perfect in (111), and future perfect in (112) with these verbs. Native speakers judge (110)-(112) as grammatical only with *for*-adverbials which indicates a durative aspect.

(110) qad sˁaraxa li-mudati saʕa-at-in *(fi saʕa-at-in)

already shout.PAST.3S.M for-hour-GEN (*in-hour-GEN)

"He has shouted for an hour."

(111) kana qad sˁaraxa li-saʕat-in (*fi- saʕat-in)

be.PAST.3S.M already shout.PAST.3S.M for-hour-GEN (*in-hour-GEN)

"He had shouted for an hour."

(112) yakunu qad sˤaraxa li-saʕat-in (*fi- saʕat-in)

be.3S.M.IMPF already shout.PAST.3S.M for-hour-GEN (*in-hour-GEN)

"He will have shouted for an hour."

In short, verbs of uncontrolled process keep their durativity when changing the outer aspect of the sentence they appear in. The same thing holds true for controlled motional process. They remain durative even when we modify the outer aspect as in (113) and (114).

(113) ya-rakadˤu xalid-un li-muda-t-i saʕa-t-in *(fi saʕa-t-in)

run.PAST.3S.M Khalid-NOM for-period-F.S-GEN hour-F.S-GEN *(in hour-F.S-GEN)

"Khalid runs for an hour."

(114) ya-sbaħu aħmad-un li-muda-t-i nisˤf-i saʕa-t-in *(fi nisˤf-i saʕa-t-in)

3S.M.IMPF-swim Ahmad-NOM for-period-F.S-GEN half-GEN hour-F.S-GEN *(in half-GEN hour-F.S-GEN)

"Ahmad swims for half an hour."

As mentioned before verbs of directed motion (*e.g.*: *wasala* "arrived", *ʔirtafaʕa* "rose", *saqata* "fell, *dʒaʔa* "came" and *θahaba* "went") are mostly unaccusative/telic and they keep their basic inner aspect as telic when the outer aspect gets modified as in (115).

(115) ya-dʒiʔu fi saʕa-t-in *(li-mudati saʕa-t-in)

3S.M.IMPF-come in hour-F.S-GEN *(for-period hour-F.S-GEN)

"He comes in an hour."

Finally, let's look at verbs of controlled nonmotional process. Native speakers consider the use of the imperfective forms of continuation existence verbs grammatical with *for*-adverbials only as shown below.

(116) ya-laʕabu li-mudat-i saʕa-t-in *(fi saʕa-t-in)
3S.M.IMPF-play for-period-GEN hour-F.S-GEN*(in hour-F.S-GEN)
"He plays for an hour."

(117) ya-taħadaθu al-muʕalim-u li-daqaʔiq-a *(fi daqaʔiq-a)
3S.M.IMPF-talk the-teacher-NOM for minutes-GEN *(in minutes-GEN)
"The teacher talks for minutes."

From the above examples, we can tell that the outer aspect has a slight effect on the change of the inner aspect, and that this class keeps its durativity in in both perfective and imperfective forms, i.e., it remains consistent with its basic durative aspect.

12 Conclusion

This chapter scrutinized the behavior of verbs that typically denote processes (*i.e.,* verbs of uncontrolled process, verbs of controlled motional process, and verbs of controlled nonmotional process) and investigated the type of inner aspect connected to them. The findings of this chapter are consistent with those obtained in earlier research. Based on the results obtained from diagnostic tests and native speaker judgment, these three classes are durative in Arabic. The class of uncontrolled process shows the lowest degree of durativity and the most sensitivity to the characteristics of the predicate. This is expected as verbs of uncontrolled process are closer to the middle of the SIH. Verbs of controlled motional process are more unergative/durative than verbs of uncontrolled process and less categorical in their behavior than verbs of controlled nonmotional

process. Finally, verbs that denote controlled nonmotional processes are core unergative/durative and the most explicit in their behavior. Simply put, they show ideal alignment between their theta role (i.e., an Agent) and their aspectual classification (i.e. durative).

Data demonstrates that the behavior of the noncore verbs is indecisive in Arabic. For some intermediate classes, the behavior of these verbs fluctuates (i.e., the uncontrolled process (involuntary reaction) class). The reason behind the variation in the behavior of the uncontrolled process verbs could be attributed to many factors that affect the inner aspect of the verb. Besides the telicity of the predicate and the agentivity of the subject, another factor shows up that normally does not appear in the case of core unaccusative and core unergative verbs, i.e. the degree of subject affectedness. Specifically, the subject of verbs denoting processes (both uncontrolled process and controlled nonmotional process) gets affected by the process itself. In other words, the process (whether it is a motion or an emission of sound) affects the argument even if it is agentive and has control. Verbs of controlled motional process have motion inherent in their semantics, and thus they have the subject affectedness sense that makes them more like unaccusatives. Similarly, verbs of emission get affected by the emission process which increases the subject affectedness and decreases the degree of volitionality, and this in turn makes them more like unaccusatives.

CHAPTER 6

CONCLUSION

In this concluding chapter, I discuss the main findings of this study presented in the chapter summaries below and then I shed light on limitations of the study and suggest future research recommendations.

1 Chapter Summaries and Contributions

The SIH is an aspectually gradient classification of unaccusative and unergative verbs. Instead of adopting a primarily lexical approach or a primarily constructionist approach to analyze split intransitivity, the SIH explains the variable behavior of intransitives in the light of both lexicalist and constructionist approaches. This dissertation investigates the unergative-unaccusative classification in Modern Standard Arabic under the scope of this hierarchy, testing the classification in a language hitherto unexplored as most work to date has focused mostly on European languages. It seeks to confirm whether this hierarchy exists in Arabic and whether it applies to its syntactic characteristics of split intransitivity. Essentially, this study focuses on the structured variable behavior of Arabic intransitive classes and discusses the gradient nature of their inner aspect. This consequently would support the claim that intransitive aspectual gradient pattern is indeed common across languages. Data obtained from Arabic confirms the existence of this hierarchy within the language. The SIH affects diagnostics of split intransitivity in Arabic. The results show that Arabic intransitives are subject to systematic variation in their inner aspect as they show different degrees of telicity and atelicity (durativity). The main results of this study, based on the SIH approach, are summarized as follows.

In Chapter 2, I presented the main approaches to argument structure. I concluded that taking a purely projectionist approach or a purely constructionist approach did not look enough to solve the complexity of the unergative-unaccusative distinction. Hence, the SIH was adopted to analyze Arabic unergatives and unaccusatives.

In Chapter 3, the telic verb classes (change of location and change of state) were examined. Data confirmed the existence of different degrees of telicity among these verbs. While verbs of change of location showed core unaccusative/telic behavior, verbs of change of state oscillated in their telicity. They indicated change to varying degrees and thus were deemed noncore unaccusative/telic. The findings of this chapter lent support to Sorace's claim that telicity should be discussed in a gradient fashion.

In Chapter 4, I discussed the inner aspect of verbs that typically denote states i.e. verbs of continuation of a preexisting state and verbs of simple existence. These verbs were the most indeterminate with respect to the unaccusative/unergative diagnostics. The findings revealed that Arabic verbs of continuation were durative, while verbs of existence were mostly stative, except for positional verbs which could vary in their inner aspect and may be telic, durative, or stative depending on the meaning they have.

In Chapter 5, the durative verbs mentioned in the Sorace's hierarchy (i.e., uncontrolled process, controlled motional process, and controlled nonmotional processes) were explored. The findings revealed that durative classes in Arabic showed variable degrees of durativity. The class of uncontrolled process displayed the lowest level of durativity. This was expected as they were closer to the middle of the SIH. Verbs of controlled motional process were more unergative/durative than verbs of uncontrolled process and less categorical in their behavior than verbs of controlled nonmotional

process. Verbs that denoted controlled nonmotional processes were core unergative/durative and the most decisive in their behavior.

In these three chapters I also examined the interplay between the inner aspect and the outer aspect. In general, even when we changed the outer aspect from perfective to imperfective, verbs kept their original aspectual interpretation. This study contributes to the literature by providing a novel classification of Arabic intransitives in terms of the SIH. Arabic data shows that the distinction between unergative and unaccusative is not always black-and-white. It supports the existence of gradience in verbs' inner aspect and their degree of agentivity. The core unaccusative/unergative verbs show consistent behavior. However, the noncore verbs are more susceptible to variable behavior and thus can be ambiguous between unergative and unaccusative readings. Furthermore, they show intermediate acceptability for the unaccusative/unergative diagnostics, which is typical of verb classes in the middle of the SIH.

Table 6.1 shows a list of some Arabic unaccusative and unergative verbs, arranged according to the SIH. The boundary between unaccusatives and unergatives in Arabic is perhaps below the change-of-state class. Sorace points out that not all languages distinguish all the seven classes. Some languages may mix classes, while others may draw further distinctions within classes (Sorace, 2000, p.871). Arabic distinguishes between the seven classes. Nevertheless, verbs of motion may fluctuate between change of location, change of state, or controlled nonmotional processes.

Table 6.1
The SIH in MSA

Sorace's label	**Example verbs**	**Aspect**
Change of Location	*wasˁala* "arrived", *saqatˁa* "fell	telic
Change of State	*nama* "grew", *maata* "died"	telic
Continuation of a pre-existing state	*dama* "lasted", *baqia* "stayed"	durative
Existence of State	*kana* "was", *dʒalasa* "sat"	mostly stative
Uncontrolled Process	*kaħa* "coughed" and *ʕatˁasa* "sneezed"	durative
Controlled Process (motional)	*rakadˁa* "ran" and *sabaħa* "swam"	durative
Controlled Process (non-motional)	*ʕamila* "worked"and *laʕiba* "played"	durative

2 Limitations and Recommendation for Future Research

In this section, I give a concise discussion of suggested further research. In this dissertation, I primarily focused in three diagnostics to test the behavior of core and non-core unergatives and unaccusatives.

(1) The compatibility with agent-oriented adverbs

(2) The ability to be transitivized or add a theme argument

(3) The use of the imperative form

There remain other diagnostics of split intransitivity that need to be investigated. Specifically, this study can be further extended to include other characteristics of split intransitivity. One of the proposed diagnostics is the prenominal past participle. Crosslinguistically, it is stated that this form occurs with unaccusatives only. It is important to consider whether it is a reliable diagnostic in Arabic or not. If yes, it should be investigated under the scope of the SIH. Another diagnostic that can add to the status

of unergative-unaccusative distinction in Arabic is the impersonal passive. Crosslinguistically, this diagnostic is grammatical with unergatives only. Further investigation of this diagnostic in Arabic is essential to tell whether it is a valid test of unaccusativity. If yes, it may provide support for the gradient nature of split intransitivity as well.

Another topic that needs to be explored is the diachronic change in inner aspect and theta roles. According to Sorace (2011), "the SIH has also received support in the literature on diachronic change. Variable verbs in terms of the SIH are diachronically unstable and prone to change" (p.73). This claim needs further investigation in Arabic.

REFERENCES

Abraham, W. (1990). A note on the aspect-syntax interface. In J. Mascaró en M. Nespor (eds.), *Grammar in Progress*, 1-12. Foris: Dordrecht.

Adger, D. (2003). *Core syntax: A minimalist approach*. Oxford: Oxford University Press.

Aoun, J., Benmamoun, E., Choueiri, L. (2010). *The syntax of Arabic*. New York: Cambridge University Press.

Baker, J. (2019). Split intransitivity in English. *English Language & Linguistics*, *23*(3), 557-589.

Belletti, A., & Rizzi, L. (1988). Psych-verbs and θ-theory. *Natural Language & Linguistic Theory*, *6*(3), 291-352.

Borer, H. (1994). The projection of arguments. *University of Massachusetts occasional papers in linguistics, 17*, 19-47.

Borer, H. (1996). Passive without theta-grids. In Lapointe, Steven (ed.), *Morphological interfaces*. Stanford, CA: CSLI Publications. 60–90.

Borer, H. (2003). Exo-skeletal vs. endo-skeletal explanations: Syntactic projections and the lexicon. *The nature of explanation in linguistic theory*, *31*, 67.

Borer, H. (2005). *The Normal Course of Events. Structuring Sense*, Volume II. Oxford: Oxford University Press.

Burzio, L. (1986). *Italian syntax: A Government-Binding approach.* Dordrecht: Foris.

Chomsky, N. (1975). *Reflections on Language*. London: Fontana.

Chomsky, N. (1981). *Lectures in Government and Binding (Studies in generative grammar 9)*. Dordrecht: Foris.

Comrie, B. (1976). *Aspect. An Introduction to the Study of Verbal Aspect and Related Problems*. Cambridge: Cambridge University Press.

Creissels, D. (2008). Remarks on split intransitivity. *Empirical issues in syntax and semantics, 7*, 139-168.

Cysouw, M. (2010). Semantic maps as metrics on meaning. *Linguistic Discovery, 8*(1), 70-95.

Dowty, D. (1991). Thematic proto-roles and argument selection. *Language, 67*(3), 547-619.

Fassi Fehri, A. (2012). *Key features and parameters in Arabic grammar*. J. Benjamins Pub. Co.

Fillmore, C. (1968). Lexical Entries for Verbs. *Foundations of Language*, *4*(4), 373-393.

Garey, H. B. (1957). Verbal aspect in French. *Language*, *33*(2), 91-110.

Giancarli, P. D. (2015). Auxiliary selection with intransitive and reflexive verbs: the limits of gradience and scalarity, followed by a proposal. *Auxiliary Selection Revisited: Gradience and Gradualness*, *44*, 79.

Gordon, Raymond G., Jr. (ed.) (2005). Ethnologue: Languages of the World, 15th Edition.Dallas, Tex.: SIL International. Online version: www.ethnologue.com

Gruber, J. (1965). *Studies in lexical relations*. Doctoral Dissertation, MIT.

Hale, K. & Keyser, S. (1993). On the argument structure and the lexical expression of syntactic relations. In Hale, K. & Keyser, S. (eds*.) A view from Building 20th*. Cambridge: The MIT Press.

Hale, K. & Keyser, S. (2002). *Prolegomenon to a Theory of Argument Structure*. Cambridge: MIT Press.

Hasan, A. (1975). *Al-Nahw al-wafi*, 5th ed., vol. 1. Cairo: Dar al-Maarif.

Haspelmath, M. (1993). More on the typology of inchoative/causative verb alternations. *Causatives and transitivity, 23*, 87-121.

Hoekstra, T. (1984). *Transitivity: Grammatical Relations in Government-Binding Theory.* Dordrecht: Foris Publications.

Hoekstra, T., & Moulder, R. (1990). Unergatives as copular verbs; locational and existential predication. *The Linguistic Review*, *7*, 1–79.

Hornstein, N. (1999). Movement and control. *Linguistic inquiry*, *30*(1), 69-96.

Jackendoff, R. (1972). *Semantic Interpretation in Generative Grammar*. Cambridge, MA: The MIT Press.

Kearns, K. (1991). *The Semantics of the English Progressive*. Doctoral dissertation, MIT, Cambridge, MA.

Keller, F., & Sorace, A. (2003). Gradient auxiliary selection and impersonal passivization in German: An experimental investigation. *Journal of Linguistics*, *39*(1), 57-108.

Klein, W. (1994). *Time in Language.* Routledge.

Koopman, H., & Sportiche, D. (1991). The position of subjects. *Lingua*, *85*(2-3), 211-258.

Lakoff, G. (1966). Stative adjectives and verbs in English. In *NSF-Report 17*, 1-16. Computational Laboratory, Harvard University.

Larson, R. K. (1988). On the double object construction. *Linguistic inquiry*, *19*(3), 335-391.

Levin, B. & Rappaport-Hovav, M. (1995). *Unaccusativity: At the syntax-lexical semantics interface*. Cambridge, MA: MIT Press.

Levin, B., & Rappaport Hovav, M. (1998). Building verb meanings. In M. Butt & W. Geuder (Eds.), *The projection of arguments: Lexical and compositional*. Stanford, CA: CSLI Publications, 97-134.

Lieber, R., & Baayen, H. (1997). A semantic principle of auxiliary selection in Dutch. *Natural Language & Linguistic Theory*, *15*(4), 789-845.

Lyons, J. (1977). *Semantics II*. Cambridge: Cambridge University Press.

Mulder, R., & Wehrmann, P. (1989). Locational verbs as unaccusatives. *Linguistics in the Netherlands*, 111-22.

Parkinson, D. http://arabicorpus.byu.edu/index.php

Perlmutter, D. (1978). Impersonal passives and the Unaccusative Hypothesis. In *Proceedings of the Berkeley Linguistic Society*, 4, 157-189.

Pinker, S. (1989). Learnability and Cognition: the Acquisition of Argument Structure. Cambridge, MA: MIT Press.

Ramchand, G. (2008). *Verb Meaning and the Lexicon: A First Phase Syntax*. Cambridge: Cambridge University Press.

Reinhart, T. (2002). The theta system—an overview. Theoretical Linguistics, *28*(3), 229–290.

Rosen, C. (1984). The interface between semantic roles and initial grammatical relations. In D. M. Perlmutter & C. Rosen (Eds.), *Studies in relational grammar 2* (pp. 38–80). Chicago: University of Chicago Press.

Ryding, K. (2005). A reference grammar of Modern Standard Arabic. New York: Cambridge University Press.

Sibawayh, A.U. (1988). *Al-Kitab: Kitab Sibawayh Abi Bishr Amr ibn Uthman ibn Qanbar*. Edited by Abd Al-Salam Mohammed Harun (3rd ed). Cairo: Maktabat al-Khanji.

Smith, C.S. (1970). Jespersen's Move and Change Class and Causative Verbs in English. In M.A. Jazayery, E.C. Polome´ and W. Winter (eds.) *Linguistic and Literary Studies in Honor of Archibald A. Hill, Vol.2, Descriptive Linguistics*. The Hague: Mouton, 101-109.

Sorace, A. (1995). Acquiring argument structures in a second language: the unaccusative/ unergative distinction. In L. Eubank, L. Selinker & M. Sharwood Smith (eds.), *The Current State of Interlanguage*, 153-175. Amsterdam: John Benjamins.

Sorace, A. (2000). *Gradients in auxiliary selection with intransitive verbs*. Language, 76(4), 859-890.

Sorace, A. (2004). Gradience at the lexicon-syntax interface: evidence from auxiliary selection. In A. Alexiadou, M. Everaert, & E. Anagnostopoulou (eds.), *The Unaccusativity Puzzle*, 243-268. Oxford: Oxford University Press.

Sorace, A. (2011). Gradience in split intransitivity: the end of the unaccusative hypothesis? *Archivio glottologico italiano, 96*(1), 67-86.

Sorace, A. (2015). The cognitive complexity of auxiliary selection: From processing to grammaticality judgements. *Auxiliary Selection Revisited: Gradience and Gradualness*, *44*, 23.

Sorace, A., & Shomura, Y. (2001). Lexical constraints on the acquisition of split intransitivity: Evidence from L2 Japanese. *Studies in Second Language Acquisition, 23*, 247-278.

Sportiche, D. (1988). A theory of floating quantifiers and its corollaries for constituent structure. *Linguistic inquiry, 19*(3), 425-449.

Sweet, Henry (1891). *A New English Grammar. Part I: Introduction, Phonology, And Accidence*. Oxford: Clarendon.

Talmy, L. (1975). Semantics and syntax of motion. In John P. Kimball (ed.), *Syntax and semantics*, vol. 4, 181–238. New York: Academic Press.

Talmy, L. (1985). Lexicalization patterns: Semantic structure in lexical forms. *Language typology and syntactic description*, *3*(99), 36-149.

Tenny, C. (1987). *Grammaticalizing aspect and affectedness*. Ph.D. dissertation, MIT.

Tenny, C. (1992). The aspectual interface hypothesis. *Lexical matters*, *24*, 1-28.

van Gelderen, E. (2013). *Clause structure*. Cambridge: Cambridge University Press.

van Gelderen, E. (2018). *The diachrony of verb meaning: Aspect and argument structure*. New York: Routledge.

van Hout, A. (1993). On unaccusativity: The relation between argument struct and aspect. Paper presented at the Arbeitsgruppe Strukturelle Grammatik, MPG, Berlin.

van Valin, R. D. (1990). Semantic parameters of split intransitivity. *Language*, *66*(2), 221-260.

Vendler, Z. (1967). Verbs and Times. In *Linguistics in Philosophy*. Ithaca: Cornell University Press.

Whaley, L. (1997). *An Introduction to Language Typology.* Thousand Oaks: Sage Publications.

Wright, W. (1898). *A Grammar of the Arabic Language*. Cambridge: Cambridge University Press.

Zabarah, H. (2012). The notion of "Complete" and "incomplete" verbs in early Arabic Grammatical theory: Kāna and its sisters. *Arabic language and linguistics*, 115–125.

Zaenen, A. (1988). Unaccusative verbs in Dutch and the syntax-semantics interface. *Technical Report SSL*, 123, 317–335.