A Comparative Analysis of The Arabic and English Verb Systems Using the Qur'an Arabic Corpus

A corpus-based study

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The candidate confirms that the work submitted is her own and that appropriate credit has been given where reference has been made to the work of others.

Publication

Chapters two, three, and five of this thesis are based on the following jointly-authored publications. The candidate is the principal author of all original contributions presented in these papers, the co-authors acted in an advisory capacity, providing feedback, general guidance and comments.

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Alasmari, J., Watson J. C.E., and Atwell, E. (2017). A comparative analysis of verb tense and aspect in Arabic and English using Google Translate. *International Journal on Islamic Applications in Computer Science and Technology*, 5(3), pp. 9-14.

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Poster

WEKA for the Machine Learning of Qur'an Verb Aspect and Tense in Arabic to English Translation, at *International Corpus Linguistics Conference* 2019. Chapter four and five is based on this poster.

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Dedication

I dedicate this thesis to Allah for His productive help to finish this thesis, as well as my family, and also to myself.

Abstract

This thesis explores the Classical Arabic verb system as it appears in the Qur'an and seven of its English translations. Research on tense and aspect morpho-syntactic features of the Classical Arabic verb in the Qur'an and its representation in the renderings of the Qur'an into English from a corpus-based perspective is a prominent area of research in both Arabic linguistics and translation studies, yet it has not been explored in detail in the previous literature (Eisele, 1990; Gadalla, 2006). Tense refers to the time at which an action happened, and aspect expresses whether the action is complete, repeated, or continuous. The definition is taken from [https://dictionary.cambridge.org].

The present study explores the Classical Arabic verb aspect in the Qur'an and investigates its translation in English tense and aspect. The rationale for focusing on the Qur'an lies in its stylistic uniqueness, the fact that it is a closed corpus, and that it is the source of Classical and Modern Standard Arabic grammar. Firstly, it uses a corpus-based method and a compiled corpus from the *Qur'anic Arabic Corpus* (QAC), which is composed of the occurrences of the Arabic verb in the Qur'an, to identify the functions of the aspect of the Classical Arabic verb. It then uses a contrastive approach to compare the use of the verb when indicating tense and aspect, as seen in the English translations. In the first step, a qualitative analysis was conducted through a close reading of the data to determine the features of the Arabic verb aspect. Then, quantitative data analysis was employed via SPSS and Kappa in SPSS to investigate the differences between the Arabic and English verbal systems in their indication of tense and aspect, and to find out what are the main strategies should be considered by translators in the translating of tense and aspect. After that, data mining using Waikato Environment for Knowledge Analysis (WEKA) software was applied in an experiment to quantitatively classify the English translations of the Arabic verb in the Qur'an.

Findings of this research confirm previous claims by scholars (e.g., Gadalla, 2006) that perfect and imperfect aspects in the Classical Arabic verb are usually translated into multiple tenses and aspects in English. The research provides evidence of the effective use of the decision tree function in WEKA as a data analysis tool to analyse the language of the Qur'an. In addition, it offers insights on the challenges of translating the Classical Arabic verb aspect and suggest that translators apply the same method in this research to improve the quality of their translations. Finally, this research provides several linguistic

resources that can be used for future corpus-based studies on other translations of the Qur’an.

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Background: Arabic letters and particles

The Arabic alphabet

In Arabic, there are twenty-eight consonants, twenty-six of which are consistently realised as such. Weak consonants, *wāw and yā*, function as consonants or as vowels depending on context. In the Arabic script, there is no distinction between capital letters and lower-case letters, and, in general, writing each letter of a word in its independent form is impossible. The letters in Arabic take distinct shapes depending on whether they are word-initial, medial, or final (Ryding, 2005).

The following is a table of the transliteration schemes which involved the traditional scheme, the scheme developed by the Encyclopaedia of Islam, and Journal of Semitic Studies. This research adopts the Journal of Semitic Studies.[1]

Table 0.1: Consonants

1 Traditional	2 Encyclopaedia of Islam (Islamic Texts Society, 2008)	3 Journal of Semitic Studies	Arabic
b	b	b	ب
t	t	t	ت
th*	th**	t̲	ث
j***	dj***	j***	ج
ḥ	ḥ	ḥ	ح
kh*	kh**	x	خ
d	d	d	د
dh*	dh**	d̲	ذ
r	r	r	ر
z	z	z	ز
s	s	s	س
sh*	sh**	š	ش
ṣ	ṣ	ṣ	ص
ḍ	ḍ	ḍ	ض
ṭ	ṭ	ṭ	ط
ẓ	ẓ	ẓ	ظ

1 The transliteration schemes are already published in different websites and Journal papers such as: https://en.wikipedia.org/wiki/Romanization_of_Arabic

‘	‘	‘	ع
gh	gh	ġ****	غ
f	f	f	ف
q	ḳ	q	ق
k	k	k	ك
l	l	l	ل
m	m	m	م
n	n	n	ن
h	h	h	ه
w	w	w	و
y	y	y	ي
’	’	’	ء
ah/at	a/at	a/at	ة

1. The vowel system in Arabic

There are six vowel phonemes in Standard Arabic: three short vowels a/u/i ـَ ـُ ـِ , which appear in Arabic orthography as a small single mark above or underneath a consonant letter, and three long ī/ū/ā vowels which are used in transliterating the letters in the Arabic alphabet *alif (ā), wāw (ū)* and *yā (ī)* (Jiyad, 2003).

1.1 Long vowels

The long vowels are approximately double the length of the short vowels, similar to the differences in musical representation in length between half notes and whole notes (Ryding, 2005).

The long vowels *wāw* and *yā* have two functions in Arabic orthography; they can act as the consonantal sounds /w/ and /y/ or as the long vowels /ū/ and /ī/. Here some examples (Ryding, 2005):

The sounds of ***wāw***

as the consonant /w/	or the long vowel /ū/:
to arrive ***w****aṣal*	glad *masr****ū****r*
state ***w****ilāya*	say *yaq****ū****l*

The sounds of ***ya***

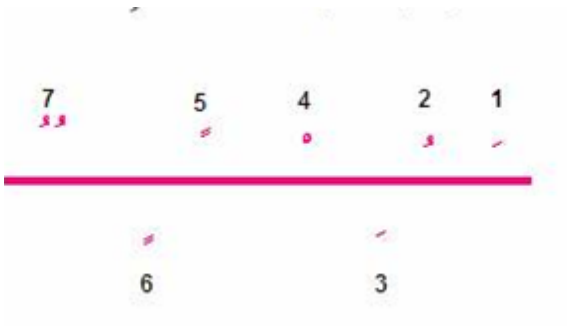
As the consonant /y/		or the long vowel /ī/	
day	***y****awm*	elephant	*f****ī****l*
white	*‘ab****y****ad*	big	*kab****ī****r*

The vowel ***ā***

words with *alif* (ā)			
door	*b****ā****b*	to walk	*maš****ā***
horseman	*f****ā****ris*	here	*hun****ā***

1.2 Short vowels in Arabic

The short vowels in Arabic are described as “movements” (*ḥarakāt*), not as letters (*ḥurūf*). In the Qur’an, “the short vowels are made explicit so that readers and reciters can be absolutely certain of the correct pronunciation of the sacred text” (Ryding, 2005, p.30).



The table below shows the transcription of vowels which is taken from the Qur’anic Arabic corpus:

Table 0.2: Short vowels

Diacritic	Arabic	Transcription
fatḥatan	ً	an
ḍammatan	ٌ	un
kasratan	ٍ	in
fatḥa	َ	a

ḍamma	ُ	u
kasra	ِ	i
shadda	ّ	(double)
sukūn	ْ	

Here are some examples of short vowels in context:

/a/	/i/	/u/
Arab *ʿ**ara**bī*	University *jām**i**ʿa*	Hospital *m**u**stašfā*

2- The Arabic phoneme system

Ryding (2005, p.10) states that the Arabic alphabet corresponds to the distinctive sounds (phonemes) of Arabic, and each sound or letter has a name.

Table 0.3: Consonantal phoneme inventory for eighth-century classical Arabic (Watson, 2002, p.13)

Place Manner	Labial	Labio-dental	Inter-dental	Dento-alveolar	Palato-alveolar	Palatal	Velar	Uvular	Phar yngeal	Glottal
plosive	b			t d			k g			?
E. plosive				t						
Fricative		f	t̲ d̲	s z	ŝ			x ġ	ḥ ʕ	h
E. Fricative				ṣ						
Affricate					j					
Nasal	M			n						
Lateral.				l						
E. Lateral				ḷ						
Flap										
E. Flap										
Glide	w					y	w			

Table 0.4: List of abbreviations[2]

Abbreviation	Arabic term	Meaning
CONJ-	**حرف عطف**	Prefixed conjunctions: e.g. *fa*- 'and', *wa*- **فَ, وَ**
EMPH-	**حرف توكيد**	Emphatic prefix: e.g. *lām* **لام التوكيد**
T-	**ظرف**	Time adverb: e.g. prefix '*iḏ* **إذ**
FUT-	**حرف استقبال**	Future particles: e.g. the prefix *sa*- **سـ** and the particle *sawfa* ***سوف***
NEG-	**حرف نفي**	The negative particle: e.g, *lam* **لا النفي**
EQ-	**همزة التسويه**	The prefixed equalisation particle *a*ʾ **أ**
CERT-	**حرف تحقيق**	The particle of certainty :e.g, *qad* **قد**
COND-	**حرف شرط**	Conditional particles such as *law* **لو**
ACC-	**حرف نصب**	Accusative particles: e.g, *ka-anna* **كأن**
P- ACC	**حرف جر ونصب**	Prepositions: e.g, *ḥattā* **حتى**
IMPV-	**لام الأمر**	Prefixed imperative particles: e.g, *li* **لِـ**
SUB-	**حرف مصدري**	Subordinating conjunction: e.g, *an* **أن المصدرية**
PRO-	**حرف نهي**	Prohibition particle: e.g, *lā* **لا الناهية**
INTG-	**حرف استفهام**	Interrogative particles: e.g, *hal* **هل**
MENA	**الشرق الأوسط وشمال أفريقيا**	Middle East and North Africa
MSA	**اللغة العربية المعيارية الحديثة**	Modern Standard Arabic

2 Adapted from the Qur'anic Arabic corpus 'Particles'. See more particles used with verbs on: [http://corpus.Qur'an.com/documentation/tagset.jsp]

WEKA		Waikato Environment for Knowledge Analysis
POS tagging		part-of-speech tagging: ‘’a special tag assigned to each token (word) in a text corpus to indicate the part of speech and often also other grammatical categories such as tense, number (plural/singular), case etc. POS tags are used in corpus searches and in-text analysis tools and algorithms’’ (Source: Sketch Engine. Lexical Computing).[3]
Trees.J48		It is an algorithm to create a decision tree.
UTF-8		All Arabic characters can be encoded using a single UTF-16 code or UTF-8 code units

Table 0.5: List of Terminology

Terminology	Meaning
Close reading	The close consideration to specific words, the syntax, the order in which the sentences explain ideas, as well as formal constructions.
Linguistic context	It is a dissertation that surrounds a language unit and supports to control its clarification [syn: linguistic context, the context of use] 2: the set of facts or circumstances that surround a situation or event; "the historical context’’ (Source: WordNet ® 1.6)
Morpho-Syntactic Features	Linguistic or grammatical components can be examined in the morphological and syntactical possessions filed to determine the connection between one linguistic form and another. The study of morphological and syntactic properties includes studying the morpho-syntactic forms used with a verb in a text: auxiliary verbs, particles, time adverbs, etc.
Agreement between measurements	The degree of agreement or consistency between two groups or more of measurements is the description of agreement measurements
context	The parts of something written or spoken immediately precede and follow a word or passage and clarify its meaning. (Source: Oxford dictionary). An example of context is the context surrounding the Arabic verb aspect.
Data mining	Hamoud and Atwell (2016, p.1) define ‘Data mining’ is ‘’the exploration and analysis of large quantities of data to discover valid, novel, useful, and understandable patterns in data. Data mining is sometimes called “knowledge discovery from datasets”.
Decision tree	It is a decision establishment system that uses a tree-like graph decision and probable outcome (Bhargava et al., 2013).

[3] "POS tags". Sketch Engine. Lexical Computing. 2018-03-27. Retrieved 2018-04-06.

attribute	A piece of data measures a field's belongings or tag in a string or a database of characters in a presentation (Wikipedia contributors, 2020).
confusion matrix	A confusion matrix is the classification or predicted model's performance, which shows on a set of test data.

Chapter 1: Introduction

Introduction

Research on tense and aspect as morpho-syntactic features of the Classical Arabic verb in the Qur'an and its representation in the translations of the Qur'an into English from a corpus-based perspective is a prominent area of research in both Arabic linguistics and translation studies, yet it has not been explored in the previous literature. In this regard, the Arabic verbal system study has been described as "a major theme in Arabic linguistics as well as in the broader context of Semitic linguistics" (Eades and Watson, 2013, p.3). Various studies have observed the differences between the verb systems in Arabic and other languages (Eisele, 1990; Gadalla, 2006). However, the Arabic language has not been widely studied in corpus linguistic terms (Eisele, 1990; Gadalla, 2006). Also, due to the significant difference between the verb systems in Arabic and English, the translation of the Arabic verb into English is not a simple process; it requires the close examination of its "linguistic contexts,[4] including the immediate and wider context of use" (El-Sadek, 2016, p. 268). Hence, this corpus-based research first explores the functions of the aspect of the Arabic verb as it appears in the Qur'an. It then conducts a contrastive study to compare the use of the verb and context when indicating tense and aspect in Arabic and English as two distinct languages. Using a corpus-based method and a compiled corpus composed of the Arabic Qur'an and seven of its English translations,[5] this research employs state-of-the-art tools to investigate the use of the Arabic verbs via qualitative and quantitative analyses of the instances in which these verbs occur both in the Arabic and English datasets. The findings of this research revealed insights such as the different contextual environments of the Arabic verb and how they compare to the English verb system, and the challenges of translating the Arabic verb tense and aspect. In addition, it presents bilingual language resources that can be used for future studies on the Qur'anic Arabic verb tense and aspect and their counterparts in the English translations. To conclude, this thesis provides an account of the series of studies that were conducted to explore the Arabic verb aspect in the Qur'an and compare its representation to seven translations of the Qur'an. The structure of

[4] Linguistic context is the "discourse that surrounds a language unit and helps to determine its interpretation". https://www.thefreedictionary.com/linguistic+context. More details about the corpus and corpus linguistic would be discussed in Chapter Two.

[5] The data is compiled from the Quranic Arabic Corpus. Retrieved from: [http://corpus.quran.com/]

this thesis will mirror the stages of this research by labelling each of the chapters with the name of the stage.

This introductory chapter will present the aims, research questions, and the expected contributions in Sections 1.1-1.3. It will then give a brief account of some of the components of this research to familiarise the reader with the theoretical part in the Arabic verbal system and the practical parts in the methodology of this research (i.e., the corpora, the implemented qualitative and quantitative data analyses, and the data analysis tools) (Sections 1.4-1.5). Finally, the structure of the thesis will be outlined in detail in the last section of this chapter (Section 1.6).

1.1. Aims of the Research

This corpus-based research has two primary aims:

- To explore the Arabic verbal system in the Qur'an by highlighting its linguistic contexts and examining the morpho-syntactic features of tense and aspect.[6]
- To investigate the differences between the Arabic and English verbal systems in their indication of tense and aspect.

1.2. Research Questions

This research focuses on three research questions that are derived from the aims of the study. The first question covers the first aim of this thesis, to explore the Arabic verbal system in the Qur'an; the second and third questions focus on the second aim, to investigate the differences between the Arabic and English verbal systems. They are the following:

1. To what extent do morpho-syntactic features influence the indication of tense and aspect of the Qur'anic Arabic verb? Which features of the Qur'anic Arabic verb and linguistic contexts indicate these verb categories?[7]
2. What are the similarities and differences between Arabic and English verb systems in terms of tense and aspect?
3. What strategies might be useful to consider in Qur'anic translation, both for human translation and machine translation when translating verbs from Arabic into English because what could be more beneficial for one and the other cannot be lumped into one?

[6] The study of the structural and syntactical rules of linguistic or grammatical elements. The rules that determine the relation between one linguistic form and another, this may include the auxiliary verbs, particles, time adverbs verbs,

[7] The results of this research can also be applied to Modern Standard Arabic.

1.3. Research Contributions

This research will benefit three disciplinary fields of study: translation studies, corpus linguistics, and Arabic and Qur'anic studies. It is subdivided into four domains of contribution: theory (syntax and morphology), methodology, insights, and language resources.

On the theoretical level, it presents an extensive exploration of the morpho-syntactic features of tense and aspect in Arabic verbs. It provides an overview, which covers studies on Arabic morpho-syntax featuring classical and modern theories and highlighting the difference between the two in the representation of Arabic grammar (Chapter Two). This is purposefully done to present a comparison of tense and aspect between the Arabic verb and their equivalents in the English syntax and morphology. This can benefit future studies on Arabic tense and aspect and comparative studies of these features as well.

Similarly, the methodology of this research demonstrates the usefulness of state-of-the-art tools in qualitative and quantitative analyses of the morpho-syntactic features of the Arabic verb and its translations. Firstly, it presents a corpus-based approach in the employment of the Qur'anic Arabic Corpus (QAC) in collecting a data of the Arabic verb in the Qur'an and other data reflecting how it is rendered in seven English translations of the Qur'an. This research provides evidence of the benefit of using this software in the qualitative analysis of tense and aspect of the Arabic verb. It can be further used to analyze other forms in Arabic and their translations (e.g., nouns, adjectives, etc.). Secondly, this research utilizes WEKA in a quantitative analysis to automatically classify English translations of the Arabic verb in the Qur'an. The use of this software in classifying verbs in the Qur'an is a novel approach, which, to my knowledge, has not been employed in previous research on the Qur'an. Corpus linguistic studies on the Arabic verb in the Qur'an can apply this approach in the exploration of its verb aspect patterns and translations. Thirdly, the use of SPSS, with the Kappa function, in particular, was useful in the quantitative analysis to find the most agreement used translation for each of the verb aspect in Qur'anic Arabic and measure the similarities and differences of each of the translations with this most agreed upon rendering. This can be used by translators as a model to provide accurate and consistent English translations of the Arabic verb in the Qur'an. Also, this can be applied in further studies of Arabic verb translation with more translations.

The findings of this research can be useful in providing insights into several topics. In practical terms, in accordance with the statistical analysis, it was found that perfect and imperfect aspects in the Arabic verb can be translated into multiple tense and aspects in English. This finding confirmed those of previous studies, which make the same claim (e.g., Gadalla, 2006). Another insight of this research is the presentation of a list of strategies that translators could follow when working with Arabic verb tenses and aspects in the Qur'an, a topic that has not been discussed extensively in the previous literature. This list could be useful in two ways. First, it could increase the translator's awareness of potential strategies by highlighting the linguistic context, e.g. the meaning, relation, environment, words) and examining the morpho-syntax. Secondly, it could increase the accuracy of annotations of the Arabic verb's morpho-syntactic features in QAC.

Finally, on the level of language resources, this research produces datasets that can be employed for future research on Arabic syntax and morphology as well as translation studies. The first group of datasets is composed of machine-readable documents (text documents), which provide the morpho-syntactic features of the Arabic verb with its equivalents in the English translation. [8] This contribution will be described in Chapter Four of this thesis and is appended in the Electronic Appendix. The second set comprises seven annotated datasets of the translations of the Arabic verb in the Qur'an. Each of the collected datasets has translations of verses which have verbs with their morpho-syntactic features (tense and aspect for each). This annotation can be used for further corpus-based studies on the contextual meanings of the verbs in the English translations of the Qur'an. Other datasets can be built in a similar fashion in parallel corpora (the collected data from the QAC consisting of verses with the Arabic verb aligned with other different translations) to provide more descriptive analysis on the translators' choice when rendering the Arabic verb in Qur'an. This research offers a description of a model for English translations of Qur'anic Arabic perfect and imperfect aspects based on contextual references (e.g., for auxiliary verbs, time adverbs, and conditional words). This model can be used in further studies of English translations of Arabic perfect and imperfect aspects to improve English tense and aspect translations.

[8] Notepad format was used in this research to convert the data to readable text in order to use it in corpus linguistic analysis tools.

1.4. Introducing the Verbal-System in Classical Arabic

This section presents an overview of the Arabic verb as it is an important part of the linguistic system in Classical Arabic, which is the language of the Qur'an. It will give a brief introduction to Classical Arabic to highlight the features of the Arabic verb system in the Qur'an. Arabic has, as for many languages of the world, different variations such as Classical Arabic (e.g., the language of the Qur'an and Classical Arabic poetry and prose), Modern Standard Arabic (MSA) (e.g., the language of newspapers, books, magazines, broadcasting, etc.), and spoken or colloquial Arabic. Nearly one billion people recite the Qur'an in Arabic in their prayers every day (Albared et al., 2010), and Arabic is spoken by approximately 330 million people across the Middle East and North Africa (MENA) (Gadalla & Abdel-Hamid, 2002; Martínez, 2012). The grammar and morphology system of Classical Arabic is still prevalent in MSA, yet the variance in style and diction in Qur'anic Arabic can be aptly termed as a unique form of Arabic in its highest level of eloquence. In this regard, Sawalha (2011, p. 5) suggests that "this is because Classical Arabic was the vehicle of God's Revelation in the Qur'an". Likewise, Classical Arabic has various features that distinguish it from other languages and other varieties of Arabic and arguably deserve particular study and research. Farghaly (2010, p.43) explains that:

> [f]or example it is very unusual for a language like Classical Arabic (CA) to persist as a living and functional language for almost 1500 years, although it is not the mother tongue of anyone. The stable sociolinguistic situation that has accommodated the coexistence of both Classical Arabic and dialects poses interesting questions. And no other language, with the exception of Hebrew, exhibits such rich morphological derivation as the majority of the words are formed from a limited number of roots.

In comparison to English, Arabic has a complex system of morpho-syntactic agreement (Holes, 2004; Habash, 2010). Al-Kuhlani & Habash (2001, p.357) attribute this complexity to "its richness, and (…) [9] features not necessarily expressed in word forms, such as lexical rationality and functional gender and number". Therefore, appropriate knowledge of the language of the Qur'an requires a thorough understanding of Qur'anic hermeneutics, and a scholar[10] must be an accomplished specialist in Qur'anic language and its idiom (Abdul Sattar, H. 2002; Muhammad, 2015). This entails learning the linguistic systems of Classical

[9] Ellipses.
[10] Scholars here could be linguists or Qur'anic scholars or translators.

Arabic (e.g., the verb system) to better understand the meanings of the Qur'an, and to be able to translate them with accuracy and consistency.

Arabic has a system of morphology which differs from that of English and other Indo-European languages (Sawalha, 2011). Arabic can be categorised as a theme pro-drop language that expresses person, number, and gender agreement, as well as aspect,[11] and modality markers through inflection on the verb (e.g., Farghaly, 2012). Every inflection of the verb is quantified exclusively (Gadalla & Abdel-Hamid, 2002). The verb system in Classical Arabic is defined in an aspectual manner: perfect الماضي *almāḍi*, e.g. كتب *kataba*, and imperfect المضارع *almuḍāra', yaktubu* يكتب, aspects are the two grammatical categories used to indicate events that have already taken place, and an event in the future or the event that has not been completed.[12] A verb is formed by the insertion of three to four consonant roots into one of the numerous verb patterns. The verb suffixes and prefixes are then affixed to these templates to locate places in the linear construction regarding number, person, gender, tense, etc. For example, *yaktubu* يكتب, *taktubu* تكتب, *aktubu* أكتب, *naktubu* نكتب *yaktubā* يكتبا and *yaktubna* يكتبن are used to express imperfect aspect, person, gender and number with the same consonantal root conveying the related meaning; the suffixes *-tu* and *-nā* in *katabtu* كتبتُ, *katabnā* كتبنا indicate first person singular and plural, respectively, in perfect aspect. From the root *ka-ta-ba* كتب, the passive voice is *kutiba* كُتِب which in English means 'it was written' (Bahloul, 1994). To show how an event or action extends over time, affixes, particles, or auxiliaries are used to indicate different aspect and tense meanings. In the past, for example, the auxiliary verb *kāna*+ the CERT- a particle of certainty *qad*+ perfect aspect كتب *kataba*, for example, can be used. The formulation *kāna qad fa'ala* indicates that the action is perfective in the past tense (Ḥasān, 1994). By contrast, in English verb inflection, past/present/future actions and event structure are primarily marked by tense, while progressive/continuous/perfect completed and incomplete actions are marked by aspect. Inflectional morphology in Arabic can be used to indicate gender, person, and number.

Understanding the correspondence between the verb form and the concept of time, whether past, present or future, is an essential aspect of any language. Both Arabic and English

[11] There is still confusion between scholars regarding tense and aspect in Arabic as some claim that the Arabic verb has only an aspect system used to indicate action concerning time past and present. Others believe that Arabic verb perfect الماضي *almāḍi*, e.g., كتب *kataba*, and imperfect المضارع *almuḍāra', yaktubu* يكتب are used to indicate multiple tenses and aspects as the English verb does based on context.

[12] The terms perfect and imperfect are used in some modern studies to define the verbal aspect system in Arabic, and those terms are employed henceforth in this research.

grammarians have made many attempts to define these communications (Reishaan & Jaʿfar, 2008). Lewis (1986) argues that the importance of the discussion of this topic which is intended to offer an understanding of the differences between the complete and incomplete actions, their time points and stages/periods, immediate and sequential events, and the comparisons between past and future. One of the reasons that Arabic and English grammarians are interested in this topic may be their efforts to find a resolution to the challenge of reliable translation between Arabic and English since the Arabic language does not share the same technique of constructing verb tenses and aspects as in English (Gadalla, 2006; Muftah & Rafik-Galea, 2013) (for a detailed discussion on the Arabic morpho-syntactic forms, see Chapter Two).

1.5. Introducing the Methodology of this Research

The general methodology of this research is presented in this thesis as two parts, as will be seen in Chapters Three and Four, and is reported in the form of published papers. Each chapter will provide an account of the data collection, the implementation of the tool or tools, data analyses, and the findings of that particular phase. A discussion of all the research findings and their discussion in the light of the questions of this research will follow in Chapters Five and Six. This section will examine the research data, data analyses including the tools that were utilized to fulfil the aims and answer the questions of this research.

1.5.1. Research corpora

The parallel corpus[13] which was collected for the purpose of this research consists of lines of Arabic Qur'anic verses and their English renderings with the occurrences of the verbs in the Qur'an. They were retrieved from the Qur'anic Arabic Corpus, which contains 1475 Arabic verbs across a total of 77,449 words in 6,236 numbered verses. The chosen verses for the verbs that appear most commonly in the Qur'an, namely the ones built from the root ق و ل ( ) *qa wa la* 'to say' and the root (ك و ن) *ka wa na* 'to be', are selected manually as models for the data analysis. There are 1616 verses with verb I form قال *qāla* of the root ق و ل *qa wa la* 'to say'; and there are 1358 verses with verb I from كَانَ *kāna* from the triliteral root ك و ن *ka wa na*. The data[14] was considered within the verse contexts by building a sub-corpus of the following translations from the Qur'anic Arabic corpus: Sahih International,

[13] The parallel corpus is defined as a corpus that contains a collection of original texts in language L1 and their translations into a set of languages L2 ... Ln. In most cases, parallel corpora contain data from only two languages. Retrieved 22:26, March 2, 2020, from: [http://www.glottopedia.org/index.php/Parallel_corpus]

[14] The translations and annotations.

Pickthall, Yusuf Ali, Shakir, Muhammad Sarwar, Mohsin Khan, and Arberry.[15] The sub-corpus of the two Arabic verbs *qāla* and *kāna* and their English translations was built from the Qur'anic Arabic Corpus. They were copied into Excel and later transformed to an annotated linguistic resource for research in Arabic grammar, syntax, and morphology for the purposes of statistical analysis (for the details of this process, see Chapter Three).

5.1.2. The data analysis and data analysis tools

This research incorporates a mixed approach in two types of data analyses to answer questions about the Classical Arabic verb aspect and its translation in the English verb tense and aspect; namely, the quantitative and qualitative data analyses in this research methodology. The flow of this analysis will be described in the following lines of this subsection. Firstly, using a close reading[16] approach in Excel, the verses were analysed qualitatively to elicit and annotate the tense and aspect of the English equivalents of the Qur'anic Arabic verbs.[17] Sometimes, the linguistic context features, such as auxiliary verbs are used at the beginning of the sample and then the target verb comes later. In this case, reading the verses come before and after the target verse is required to find out the full context structures. At this stage, I went through all the translations of the two verbs **قال** *qāla* of the root **ق و ل** *qa wa la* 'to say' and **كَانَ** *kāna* in the verses to add annotation of the verb tense and aspect in English. The verb sentence structure is considered to find out the morpho-syntactic features, such as Auxiliary verbs, time adverbs, etc., and the mood of verbs and the parallel form of tense and aspect in English.

Secondly, using the annotated datasets in the previous step, a statistical analysis was employed via SPSS and the Kappa function in SPSS. This quantitative analysis aimed at finding the most agreed upon translation of the Qur'anic Arabic verb in the Qur'an as well as highlighting the similarities and differences between the Qur'anic Arabic verb and its English renderings. These findings were useful in identifying the translators' strategies in translating the Classical Arabic verb (the implications of these statistical findings are discussed in Chapter Five). Thirdly, using the most agreement used translation from the

[15] These translations appear by default under the Arabic verses in the QAC page.

[16] '**Close reading** is the careful, sustained interpretation of a brief passage of a text. A close reading emphasizes the single and the particular over the general, effected by close attention to individual words, the syntax, the order in which the sentences unfold ideas, as well as formal structures. Wikipedia contributors. 2020., Close reading. In *Wikipedia, The Free Encyclopedia*. Retrieved 22:26, March 2, 2020, from: [https://en.wikipedia.org/w/index.php?title=Close_reading&oldid=940740912].

[17] The classification of the Arabic verb aspect was available in QAC and utilized in the methodology of this research.

previous quantitative analysis, a parallel reading of the Arabic verses with this translation was performed in a qualitative analysis to indicate the Arabic verb aspect's linguistic contexts. Translations which showed the most agreement of certain aspects of the Arabic verb were discussed in some examples based on the use of the linguistic contexts, for examples, the results show that in 15 of the 251 samples, the imperfect aspect is used with particles such as the NEG- negative particles *lam* لم,*lā* لا , COND- conditional particle *law* لو, ACC- accusative particle *ka-anna* كأن, P- preposition *ḥattā* حتى, and the past perfect tense is most used in the 15 example translations into English.

Fourthly, a quantitative analysis via WEKA, was implemented on the same datasets in an experiment to classify the English tense and aspect verb in accordance with the Qur'anic Arabic verb aspect. This data analysis was applied through a machine learning method with WEKA by adding the features of linguistic context to the dataset of the QAC adopted annotation of Qur'anic Arabic aspect (details of this experiment will be discussed in Chapter Three). Finally, a description of each of the abovementioned tools is provided in Chapter Four.

1.6. Thesis Outline

This thesis consists of seven chapters. **Chapter One** is a general introduction that outlines the aims of the research, the research questions, and relevant concepts and methods. **Chapter Two,** which is based on a short-published paper, presents a descriptive overview of the verb system in Arabic and English as seen through the lens of previous literature. **Chapter Three** presents the first part of the methodology, based on another published paper, which is concerned with choosing the corpus-based methodology for this research. **Chapter Four** presents the second part of the methodology, based on two published papers, which present the comparative corpus-based analysis of the Arabic and English verb systems together with the statistical and qualitative findings of this research. **Chapter Five** elaborates on the findings in the previous chapter. **Chapter Six** discusses the answers to the research questions based on the findings and insights in the previous chapters. **Chapter Seven** summarises the conclusions and implications of this research and provides some suggestions for future studies.

1.10. Ethical Consideration

This research is based on a structured observation. It consists of testing hypotheses through a collection of already published data. It did not involve any study tools in collecting or

analyzing the data (e.g. personal interviews, direct observation) that would generate ethical concerns.

Chapter 2 An Overview of the Arabic Verb System in the Literature

Introduction

This chapter, which reviews previous studies on the verbal system in Arabic highlighting its distinctiveness and difference from English, is based on the work of Alasmari et al. (2018). This is the first paper among several others in this thesis, and it was composed in the early stages of the research to provide a comprehensive view of the verbal system in Arabic before applying corpus linguistic methodology to analyse the Qur'an. It has five sections: studies which define derivational and inflectional morphology in general; studies on derivational Arabic verb morphology; studies on inflectional Arabic verb morphology; a review of the studies of definitions of tense and aspect in Arabic; and, finally, a summary to conclude this chapter. The importance of this chapter lies in its introduction of two major lines of thought: the Arabic verb system with features that distinguish it from English as well as an understanding of Arabic verb aspects and tenses as presented by both early Arab grammarians and modern linguists. The study provides the background of the Arabic verb system and should aid researchers in choosing the linguistic verb features such as the morphosyntax features in the analysis of the collected data from the Qur'an and its later translations.

2.1. Defining Derivational and Inflectional Morphology

Word formation is created by morphology, which can be categorised into *derivational morphology* and *inflectional morphology*. Al-Shdaifat (2014) notes that to distinguish between these two types of morphology, the function of affixes must be recognised. A word with a different meaning or different word class is formed through derivation. In this context, Carstairs-McCarthy (2002, p.28) describes the difference between derivational morphology and inflectional morphology in English by discussing the effect of grammatical context on a word's affixes.

Carstairs-McCarthy (2002, p.28) uses the following words as examples, all of which contain suffixes in their particular contexts: 'performs', 'perform-ed', and 'perform-ance'.

1. This pianist performs in the local hall every week.

2. Mary told us that this pianist performed in the local hall every week.

3. The performance last week was particularly impressive.

The suffix -ance is not dependent on the syntactic context, but the suffixes -s and -ed are: the word ‘performs’ is affected by the singular subject of the verb, while the suffix -ed in ‘performed’ places this verb in the past tense.

According to the previous explanation, inflectionally, singular and plural references are the two grammatical contexts that affect word forms (noun, pronoun, verb and adjective) using suffixes. In English, some countable nouns indicate their plural forms using no suffix at all, such as ‘teeth’ and ‘men’, which instead change root vowels; singular and plural references. In addition, Carstairs-McCarthy (2002) argues that the plurals of words such as sheep, fish, and deer do not even show vowel changes. With regard to the verb form, a contrast in tense is one kind of inflectional morphology, such as the distinction between past and present, among other instances of contrast in person and number, such as ‘gives’ (third-person singular present tense), ‘gave’ (past tense), ‘giving’ (progressive participle), ‘given’ (perfect or passive participle) and the basic form ‘give’ (used everywhere else).

Derivational morphology,[18] on the other hand, is used mainly in the connections among lexemes. Thus, the relationships between words, as in the example ‘perform’ and ‘performance’, are among lexemes rather than word forms. Carstairs-McCarthy (2002, p.28) describes this situation in more detail:

> [T]here are contexts where, if any verb appears, it must carry the third-person singular suffix -s, but there are no contexts where, if a noun appears, it must carry the suffix -ance. The suffix -ance is not one of the small class of suffixes (so-called ‘inflectional’ suffixes) whose use is tightly determined by the grammar. What sort of suffix is it, then? A short answer is that not being inflectional, it must be derivational [,] since the term ‘derivation’ is used for all aspects of word-structure involving affixation that is not inflectional.

However, some words, such as adjectives that derive from verbs, include the division between derivation and inflexion. Watson (2002, p.132) defines the differences between

[18] The study of the creation of new words is derivational morphology. Words constructed from smaller parts: black + bird to form blackbird is one example of derivational morphology.

the two categories in the application of morphology to Arabic. She suggests two morphological levels in Arabic: derivational morphology, which primarily affects the stem of the word, and inflectional morphology, which does not affect the stem of the word and works principally by adding affixes to the beginning and end of the word stem. However, affixal processes typically associated with inflectional morphology may be used to derive lexemes, and stem-based processes associated typically with derivational morphology may be used to provide the correct form of a lexeme in a particular syntactic context. In the context of Arabic morphology as seen in previous studies, inflectional and derivational morphology are traditionally covered under Arabic morphology الصرف *Al-ṣarf* (Al-Shdaifat, 2014). However, under النحو *Al-naḥw* 'syntax', grammatical case and mood are considered (Ryding, 2005). In most cases, Arabic words depend on the affixation of consonants to or within a given root to create inflexions and derivations. The following two subsections present the derivational and inflectional systems for verbs in Arabic in more detail, with references to the English verbal system for brief comparisons and illustrations.

2.2. Studies on Derivational Arabic Verb Morphology

As in other Semitic languages, Arabic has a root-and-pattern morphology. In Arabic, the base of a content word is the consonantal root. Ryding (2005, p.74) defines a root as 'a relatively invariable discontinuous bound morpheme, represented by two to five phonemes, typically three consonants in a certain order, which interlocks with a pattern to form a stem and which has lexical meaning'. The root usually consists of three consonants. From this root, words are formed. The consonants within the root, often referred to as 'radicals', are often denoted by the consonants ف ع ل *fa- ʿa- la-* for triliteral roots and فعلل *fa- ʿa- la- la-* for quadriliteral roots (Tucker, 2010). Using these forms makes the representation of the pattern easier to remember and more pronounceable (Neme and Laporte, 2013). There are also two- and five-radical roots, the former comprising words of only two radicals, as in دَم *dam* 'blood', and the latter having five radicals, as in استبرق *is'tabraq* 'heavy brocade'. [19]

In Arabic, radicals link with patterns of vowels or, on occasion, other consonants. The vowels are interposed between the radicals. Thus, the root forms a discontinuous morpheme. Different content words can be formed by inserting vowels or consonants into the root. The root carries a general semantic notion: thus, the root *ka-ta-ba* has the general

[19] For more examples and details of morphological features, use 'manager search'; 'Morphological Features' of the Qur'anic Arabic corpus: http://corpus.Qur'an.com/documentation/morphologicalfeatures.

idea of writing, including books, schools, writers, letters, etc. Vocalic patterns modify this meaning (Al-Shdaifat, 2014; Shamsan et al., 2015).[20] Ryding (2005, p.74) defines a pattern as 'a bound and [,] in many cases, discontinuous morpheme consisting of one or more vowels and slots for root phonemes (radicals), which [,] either alone or in combination with one to three derivational affixes, interlocks with a root to form a stem and which generally has a grammatical meaning'.

Table 2.1 Words derived from the consonantal root *ka-ta-ba*[21]

كِتاب	book	*kitāb*	*fiʿāl*
كاتِب	writer	*kātib*	*fāʿil*
مَكْتَب	office	*maktab*	*mafʿal*
مَكْتَبة	library	*maktaba*	*mafʿalah*
مَكْتوب	letter	*maktūb*	*mafʿūl*
كَتَبَ	he wrote	*kataba*	*faʿala*
كُتُب	books	*kutub*	*fuʿul*
كُتّاب	writers	*kuttāb*	*fuʿāl*
كُتِب	it was written	*kutiba*	*fuʿila*

The consonants in words derived from a root remain in the same sequence, first *ka*, then *ta*, then *ba*. Affixes and vowels create patterns (Al-Shdaifat, 2014). Ryding (2005, p.45) explains that 'In Arabic, this root–pattern process has evolved extensively and very productively in order to cover a vast array of meanings associated with each semantic field such as writing'.

[20] Vocalic patterns contain a vowel or vowels. In Arabic, these could be long or short vowels (See Table 2.1).

[21] كتب: ك,ت,ب 'he writes'

Derivational verbal morphology in Arabic

From triliteral and quadriliteral roots, Arabic verbs are separated into verb forms. At the same time, the verb form is divided into الأوزان المجردة 'simple patterns' and الأوزان المزيدة 'derived patterns'. For triliteral roots, 15 possible verb forms (patterns) exist, of which 10 are in common use. For quadrilateral roots, four common patterns exist (Tucker, 2010; Martínez, 2012). These verb forms are typically denoted in the literature by Roman numerals. Form I is the base or ground form (Qur'anic Arabic corpus). Forms I–X are derived forms.

Table 2.2 Triliteral verb forms (I–X)

Form	Form in transliteration **ف ع ل** *fa ʿa la*
Form I **فَعَلَ**	*fa-ʿa-la*
Form II **فَعَّلَ**	*fa-ʿʿa-la*
Form III **فَاعَلَ**	*fā-ʿā-la*
Form V **تَفَعَّلَ**	*ta-fa-ʿa-la*
Form IV **أَفْعَلَ**	*af-ʿa-la*
Form VI **تَفَاعَلَ**	*ta-fā-ʿa-la*
Form VII **انْفَعَلَ**	*i-n-fa-ʿa-la*
Form VIII **افْتَعَلَ**	*i-f-ta-ʿa-la*
Form IX **افْعَلَّ**	*i-f-ʿa-lla*
Form X **اسْتَفْعَلَ**	*i-s-t-a-f-ʿa -l-a*

Table 2.3 Quadriliteral verb forms (I–IV)

Form	Form in transliteration **ف ع ل** *fa ʿa la*
Form I **فَعْلَلَ**	*fa-ʿ-la-la*
Form II **تَفَعْلَلَ**	*ta-fa-ʿ-la-la*
Form III **افْعَنْلَلَ**	*i-f-ʿa-n-la-la*
Form V **افْعَلَلَّ**	*i-f-ʿa-la-lla*

The verb suffixes and prefixes are affixed to these forms in a linear structure to denote a number, person, gender, aspect, etc. The active or passive voice is used for the root ف ع ل *fa –ʿa – la*, [22] established on the verb *faʿala* 'to do' (Truck, 2010). In Arabic verbs, derivational and inflectional morphological categories play equally important roles in the verb system. Arabic is a pro-drop language; that is, due to a highly inflected verb morphology, subject pronouns may be dropped (e.g., Farghaly, 2012). This is, for example, the case in أكرمه يكرمك *akrimhu yukrimak* 'you honour him, he honours you'. In pro-drop languages, the verb inflection indicates the person and number of the subject, and as such, the presence of an explicit subject pronoun is not required (Wikipedia, 2019). The case is different in English, where five types of morphological procedures exist: 'affixation, interior transformation combination, suppletion, and zero-modification' (Hameed and Yasin, 2015, p.88). The regular formative morphemes of words are built using affixes that contain either prefixes at the beginnings of words (e.g., in- in the word 'inappropriate') or/and suffixes at the ends of words (e.g., -less in 'hopeless'), whereby adding the affix -ly to some adjectives turns them into adverbs ('slow' → 'slowly'), and so on. In English, two or more words can be interconnected in the construction, which might affect the pronunciation of the root. This is actually very common; for example, the verb 'slept' and the noun 'sleep' contain a consonantal transformation. Combining two or more roots to produce one root is possible, such as in 'bus stations', 'newspaper', and so on. Suppletion is the morphological procedure by which the formulation of an allomorph of one morpheme is disconnected from other allomorphs, such as the use of 'better' as the comparative of 'good'. [23] The last type of morphological procedure is zero-modification, which refers to zero morphs; for example, there is no plural form of 'bread', whereas, for other nouns, the plural is formed by adding 's' at the end, such as 'cows' (Booij, 2007; Hameed and Yasin, 2015). Verbs in English form a main word class that uses a number of morphological procedures in the derivation of affixes, mainly prefixes and suffixes for the construction of new words. There are multiple ways to derive a verb from a noun or adjective; for instance, by adding -ise/-ize, adjectives can be derived into verbs 'modern'-ise, 'familiar'-ise, 'circular'-ise and 'popular'-ise. The suffix -ate can be added to the end of nouns or adjectives ending in -ation, such as 'legislate' from 'legislation'. The suffixes -ise, -en and

[22] It called a 'dummy root', which means 'doing action in regular' (Truck, 2010).
[23] Suppletion is the existence of an unconnected form to fill a gap in a union (e.g., 'went' as the past tense of 'go').

-ify can also be added to derive, for instance, ‘author’ from ‘authorise’, ‘dark’ from ‘darken’ or ‘class’ from ‘classify’ (Booij, 2007; Dixon, 2008).

2.3. Studies on Inflectional Arabic Verb Morphology

Arabic has a highly inflected verb morphology. In Arabic verbs, tense and aspect can be inflected using inflectional morphology rules based on context (Al-Saleemi, 1987). The inflectional verbal morphology of Arabic verb distinguishes between a suffix conjugation and a prefix conjugation, generally referred to by linguists as the ‘perfect’ and the ‘imperfect’. The suffix conjugation typically refers to the past tense, while the prefix conjugation typically refers to the present tense. The aspect can be inflected by the use of suffixes in the perfect and prefixes and suffixes in the imperfect. Prefixes can indicate tense, for example, *sa-* in the imperfect aspect indicates future tense.

The grammatical categories relevant to verbs are the person (first, second and third), number (singular, dual and plural), and gender (masculine and feminine). These categories are realised in the suffixes of the suffix conjugation and the prefixes (and suffixes) of the prefix conjugation, as the examples in Tables 2.4 and 2.5 show.

Table 2.4 The suffixes of the Arabic suffix conjugation

kataba ‘to write’			
‘I wrote’	*katabtu*	‘we wrote’	*katabnā*
‘you (m. s.) wrote’	*katabta*	‘he wrote’	*kataba*
‘you (f. s.) wrote’	*katabti*	‘she wrote’	*katabat*
‘you (m. pl.) wrote’	*katabtum*	‘they (m.) wrote’	*katabū*
‘you (f. pl.) wrote’	*katabtunna*	‘they (f.) wrote’	*katabna*
‘you (dual) wrote’	*katabtumā*	‘they (m. dual) wrote’	*katabā*
		‘they (f. dual) wrote’	*katabatā*

Table 2.5 Prefixes and suffixes of the prefix conjugation for the Arabic verb ‘to write’

kataba ‘to write’			
‘I write’	*aktubu*	‘we write’	*naktubu*
‘you (m. s.) write’	*taktubu*	‘he writes’	*yaktubu*
‘you (f. s.) write’	*taktubīna*	‘she writes’	*taktubu*
‘you (m. pl.) write’	*taktubūna*	‘they (m.) write’	*yaktubūna*

'you (f. pl.) write'	*taktubna*	'they (f.) write'	*yaktubna*
'you (dual) write'	*taktubāni*	'they (m. dual) write'	*yaktubāni*
		'they (f. dual) write.'	*taktubāni*

The citation form of the Arabic verb is the third-person masculine in the suffix conjugation, such as *kataba* 'he wrote', *rasama* 'he drew' and *ḍaraba* 'he hit'. In English, verb forms provide information about events or actions, such as time, period, relation to another event or action, and so on. Auxiliary verbs in English are used with main verbs to refer to the various meanings of tense and aspect, for example: 'has' is used to talk about the present perfect while 'had' is used with the main verb to talk about the past perfect. Aarts and Haegeman (2006) explain that to express tense, voice, mood and aspect in English, auxiliary verbs are used. For example, the third-person singular uses the auxiliary verbs 'is', 'does' and 'has'.

In English, the main forms of most verbs are the present, the past – which for regular verbs is indicated by -d and -ed – and the present progressive made by ending a word with -ing, such as 'watch', 'watched', and 'watching' (Palmer, 2016).

In English, there are eight types of universally used English inflectional morphemes: the plural, possessive, comparative, superlative, third singular present agreement, past tense, past participle and present participle. The grammatical functions of these eight morphemes and respective examples are provided below (Hashemi and Kazemian, 2014):

Table 2.6 English morphemes[24]

Morpheme	Grammatical Functions	Examples
Plural	Shows things like more than one	Cars, houses, chocolates
Possessive	Describes ownership	London's, John's, Maria's
Comparative	Describes comparison	Faster, whiter, cooler
Superlative	Expresses degree	Fastest, whitest, coolest

[24] The table is combined of two tables provided by Hashemi & Kazemian (2014, p.603), and the following table of the file on the website:
{http://www.arts.uwaterloo.ca/~raha/306a_web/EnglishInflectionalAffixes.pdf}

Third-Person singular present agreement	Third-person singular is agreed with and present tense is focussed	Walks, pulls, waits
Past tense	Reflects previous actions	Ran, dropped, cheated
Past participle	Past participle is focussed	Chosen, proven, given
Present participle	Present participle is focussed	Running, dancing, sleeping

Following this overview of the derivational and inflectional morphology of Arabic verbs, this chapter moves to another topic relevant to this research, which is a review of the studies on verb tense and aspect in Arabic.

2.4. Studies of Definitions of Tense and Aspect in Arabic

A variety of languages use the grammatical clarification of time for the occurrence of an event or action or to refer to a process or state, a phenomenon referred to as 'tense' (Michaelis, 2006). According to Slal (2009, p.85), 'tense is a grammatical device used by a language to denote time employing contrast in verb forms'. It is a type of grammatical category used to signal a correspondence between the verb form and our understanding of time: past, present and future (Quirk et al., 1985). Hewson and Bubenik (1997, p.12) cite different definitions to distinguish between tense and aspect offered by many linguists: Jakobson (1956,1984, p.45, cited in Hewson and Bubenik, 1997), for example, states that tense is what 'characterises the narrated event regarding speech event,' whereas aspect indicates the event 'without reference to the speech act.' Dahl (1985, p.25, cited in Hewson and Bubenik, 1997) states that 'tense is typically deictic categories, in that they relate time points to the moment of speech. Aspect, on the other hand, is non-deictic categories.' A morphological change in the base form of a verb is sometimes used to realise these categories (Deo, 2007).

Two different tenses can be distinguished by reference point depending on whether the time template corresponds with the speech time 'absolute tense', in which the present moment is the point of reference for the location of the situation in time, or whether a contextually determined time template corresponds with the speech time 'relative tense', where the point of reference for the location of the situation in time is given by the context (Comrie, 1985). Essential characteristic tense arrangements are found in English and other European languages, in which verbal inflections express past, present and future with speech time.

By contrast, relative tense organisations do not refer to actual speech time. Comrie (1967, p.56) argues that 'the reference point for the location of a situation is some point in time given by the context, not necessarily the present moment.' Comrie (1985) states that relative and absolute tense can be combined in the pluperfect and future perfect and that tense does not signify a one-to-one relationship. The present tense, for example, does not always refer to the present time, and neither does the past tense always refer to past time (Reishaan and Jaʿfar, 2008). The relation between tense and time is complicated. That is, the past tense, for example, can be used to indicate future time: past simple, past perfect, past continuous, past perfect continuous, future simple, future perfect, future perfect continuous, future continuous, etc. (Fleming, 2003). Fleming (ibid) states that various verb forms can be used to indicate action in time:

Present
Simple…… he works
Continuous…….....he is working
Perfect……..he has worked
Perfect continuous…….....he has been working
Past
Simple……..he worked
Continuous……..he was working
Perfect……..he had worked
Perfect continuous……..he had been working
Future
Simple……..he will work
Continuous……...he will be working
Perfect……..he will have worked
Perfect continuous……..he will have been working.

Aspect, on the other hand, involves the internal temporal organisation of the situation, rather than a timeline relative to the time of speech (Michaelis, 2006). Comrie (1976, p.16) states that perfective and imperfective are the two most basic aspectual divisions and distinguishes between them as follows: 'Perfectivity indicates the view of a situation as a single whole, without distinction of the various separate phases that make up that situation, while the imperfective pays essential attention to the internal structure of the situation.'

Commonly, perfect and imperfect are used by linguistics to refers to the past tense and present tense in Arabic.

Perfective and imperfective aspect terms are used in English, which is relative tense. In the imperfect aspect, the action takes some time, and other things happen during this time. So, an example of an imperfect aspect construction could be ‘I was eating an apple, and then while I was still eating it the phone rang’: an event happened while the first event was still going on. On the other hand, when something has happened and is over and done with, that is the perfect aspect: ‘I ate an apple first, and then when I finished the phone rang’ (Wikander, 2014). The following two subsections present more details on tense and aspect for verbs in Arabic with references to English examples for brief comparisons and illustrations. The perfect and the imperfect in Arabic are used for the past tense and the present tense. Tense refers to time and aspect to action if it is completed or continuous. Perfective verbs are characteristically translated into English as simple past, as 'entered'. Imperfective verbs generally are translated as continuous or habitual, such as 'was reading', 'used to read'.

Tense and aspect in Arabic

Among linguists and grammarians investigating the Arabic language, the verb system –the denotation of verbal forms in Arabic – has long been subject to debate, particularly whether Arabic has a tense system or an aspect system. Wright (1896) attributes the origin of the debate to several historical and theoretical factors, further maintaining that he could not clearly understand what was being expressed in terms of perfective, imperfective, or ‘simple aspects’ in any of the tenses. Odilavadze (2010) also suggests that the traditional orientalist views of Arabic with ‘aspect’ rather than ‘tense’ have influenced some scholarly approaches to those categories. Ryding (2005) explains ‘past’ and ‘present’ via a timeline when using the term ‘tense’, which can be less confusing for learners, while some linguists, such as Eisele (1990), suggest that the ‘past’ and ‘present’ distinguish between actions that are past and non-past. New descriptions have also been introduced to define the terms ‘aspect’ and ‘tense’ (Bubenik, 2011). The debate among contemporary linguists regarding whether Arabic is tense-specific or aspect-specific continues to this day. El-Sadek (2014) considers Arabic a tense language with two finite forms, one that is prefixed and one that is not prefixed, an idea which has also been reviewed by linguists such as Binnick (1991) and Fehri (2012). Brustad (1991) notes that the perfective form **فعل** *fa'al*, the imperfective **يفعل** *yaf'al* and the participle all define actions, events and states from different viewpoints.

Consistent with the views of tense-aspectualist linguists, El-Sadek (2014) confirms that both tense and aspect can be expressed in verbs in ECA[25]: the verb carries tense only in simple tense forms, while the main predicate (such as the auxiliary *kān*) marks tense in tense-compound constructions, and aspect is marked by the following lexical verb.[26]

The following subsections review tense and aspect in Arabic as seen through the lenses of both early Arab grammarians and the modern linguists who explored the Arabic verb system. They then present the views in the literature on the interplay of tense and aspect and scholars' suggested methods for differentiating between the two in the analysis of the Arabic verb system.

2.4.1. The views of early Arab grammarians

The connection between time and tense has attracted so much consideration by Arab and English grammarians that it is challenging to clarify the Arabic verb system without referring to this connection (Al-Maxzūmī, 1964; Sībawayh, 1966; Al-Sāmrā'ī, 1983; Al-Zajjājī, 1984; Ibn Yaʿīš, 2001). Many grammarians consider different divisions of time, but they regard an analysis of philosophical time as significant to an understanding of the relationship between the action and the tense form it indicates. According to Arab grammarians, the relationships that verbs have with tense and time have many classifications, which are often related to what is generally called 'philosophical time' (Lewis, 1986) or 'referential time' (Quirk et al., 1985). In terms of philosophical time, time is only a concept of the human mind, which uses calendars and clocks to measure it. Reishaan and Jaʿfar (2008, p.100) discuss the idea of Raiss (n.d.), defining time as what we measure with clocks, watches and calendars, for example. Anything related to the future and anything related to the past, which is identified as a continuously moving moment, is recognised as time. In English, for example, time can be recognised as something relating to a particular point of 'now': present, before now; past, subsequently now; future; or timelessly, covering past, present and future.[27] Slal (2009, p.83) also claims that

> The point of reference is the moment of speaking which determines the present as the moment identical with the point of reference, the past as the time which precedes the

[25] Colloquial Egyptian Arabic.

[26] Simple tense forms such as *fala*,or *ya falau*. Compound tense: the main verb + *kana*. Aspect is the main verb El-Sadek (2014).

[27] Past and present: Present continuous. Covering past: past perfect. Timeless: present perfect.

> point of reference, and the future as the time which follows the point of reference; tenses using the moment of speaking as the point of reference [are] termed ‘absolute’; those using the moments as a point of reference are termed ‘relative’.

According to Reichenbach’s (1947) theory of tense, tense is the relation between the time point of reference and the time point of the speech, while aspect is the relation between the event and the time point of reference. Hackmack (1991) explains Reichenbach’s theory of tense, which examines three times using three diagrams: S for speech-time (the time of speaking), E for event-time (when the action takes place) and R for time references[28]. The time reference E-R-S diagrams are as follows: E-S for the action takes place before; S for past, such as ‘John saw Bill’; S-E for the action that takes place after; E for the future, such as ‘John will see Bill’; and ES for the present, such as ‘John sees Bill’. The table below explains Reichenbach’s framework (Gast, 2014):

Temporal relations	Tense category	Traditional label	Example	
1.	E–R–S	Anterior Past	Past Perfect	I had passed the exam by the end of the winter.
2.	E,R–S	Simple Past	Simple Past	I passed the exam.
3.a	R–E–S	Posterior Past	--	I did not know that he would win. (yesterday)
3.b	R–S,E	Posterior Past	--	I did not know that he would be here. (right now)
3.c	R–S–E	Posterior Past	--	I did not know that he would come. (tomorrow)
4.	E–S,R	Anterior Present	Present Perfect	I have passed the exam.
5.	S,R,E	Simple Present	Present	I see John.
6.	S,R–E	Posterior Present	Simple Future	I shall see John.
7a	S–E–R	Anterior Future	Future Perfect	I will have passed the exam by the end of the winter.
7.b	S,E–R	Anterior Future	Future Perfect	John will have fixed the car by tonight.(already repaired)
7.c	E–S–R	Anterior Future	Future Perfect	I will have fixed the car by tonight. (just repairing it)
8.	S–R,E	Simple Future	Simple future	I will see John tomorrow.
9.	S–R–E	Posterior Future		I shall be going to see him.

Figure 2.1 Reichenbach’s (1947) theory framework of tense

However, Hackmack (1991) criticises Reichenbach’s tense analysis, confirming that some examples illustrate the difficulty of mapping all tenses onto this system. Consider, for example:

‘John leaves’ / ‘John is leaving’ / ‘John will leave London on Monday’ (S-E in all three cases), all of these examples refer to the future.

[28] Time references: the location of the situation in time.

The three tenses here (present simple, present progressive and future simple) could all be used to indicate that the action will take place after the point of the speech. Some research, such as Comrie's (1985), finds that Reichenbach's (1947) theory was the starting point for further research (Areces et al., 2011).

In his discussion of philosophical time and the relationship between points of reference and other moments, Al-Sāmrā'ī (1983) claims that tenses are generally relative in Arabic and that the point of reference is used to indicate other moments in sentences. Regarding the relationship between verb form and the idea of time, the grammarian Sībawayh (1966, p.35) asserts that Arabic verbs imply time. For example, زيد ذهب *ḏahaba Zaid* 'Zaid went' and زيد سيذهب *sa-yaḏhabu Zaid* 'Zaid will go.' This means that the verb refers to what has happened or to an event or state that will take place in the future. Ibn Yaʿīš (2001) also contends that time is an arrangement that verbs are divided according to time and that time is multilateral: past, present and future. Abdul Hameed (n.d.), citing Al-Anbārī, argues that times are found in all morphological forms. This understanding implies that the three times are parallel to three verb formulas: past, present and future. Such a view is held by the *Kūfah* School of Grammar (Marmorstein, 2016).

On the other hand, some Arab grammarians segregate the verb formulas into the future, past and continuous tenses. In this regard, Al-Zajjājī (1984) supports reference to the term 'constant'. The use of the continuous term by Al-Zajjājī (ibid) refers to the present, which could be the constant action, occurring continuously over a while, or happening always. Al-Zajjājī (ibid) uses the word 'constant' to refer only to the present.

Reishaan and Jaʿfar (2008), citing Al-Zajjājī (1984), state that for the indication of past or future actions or states, verb forms 'words' are used,[29] such as قام *qāma* 'he stood', يقوم *yaqūmu* 'he stands', قعد *qaʿada* 'he sat', يقعد *yaqʿudu* 'he sits', etc. Al-Zajjāji suggests that the present can be considered the future because, as soon as one passes the present point, it becomes part of the past (1984). Some Arab grammarians link the present and future tenses because they believe the present too short to be considered alone. For them, the present is linked moment-by-moment to the past on the one hand and to the future on the other. Hence, there is no difference, as they see it, between the future and present. For example, the sentence زيد يقوم *Zaid yaqūmu* can be used to mean both 'Zaid is standing now or today' and 'Zaid is standing tomorrow'. For the *Baṣrah* School, there is a mutual verb formula for

[29] Forms define verbs as forms (words) that refer to past or future actions or states.

expressing both present and future actions. Al-Ṭabṭabā'i (1983) has identified another basis for this time-tense relationship: classifying tense under the existence of the 'real tense' or the nonexistence of the 'unreal tense' of the action that the verb indicates. Real tenses indicate actions that exist (i.e., the present) and actions that existed but do not anymore (i.e., the past), whereas unreal tenses indicate actions that have not existed yet (i.e., the future). Reishaan and Jaʿfar (2008, p.108, Figure 3) depict the two divisions of real tense as shown below:

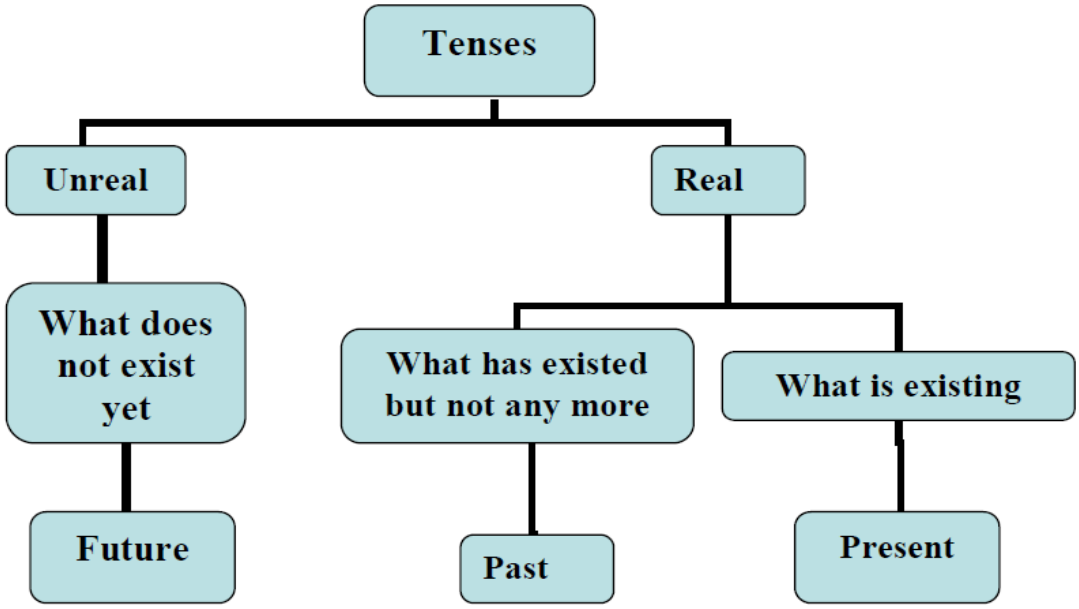


Figure 2.2 The two divisions of tense

With the following figure, Reishaan and Jaʿfar (2008, p.109) explained the relationship between the tense used at the moment of speaking (i.e., speech-time) and the time of the event (i.e., event-time) under the theory of Al-Ṭabṭabā'i (1983), who thought of real and unreal tenses as action arriving opposite the time direction of speaking (Reishaan & Jaʿfar, 2008, p. 109, Figure 4):

(Action Relationships)

Past time ——————present——————future time

[an action after uttering] [an action before uttering]

Figure 2.3 Division of time

Reishaan and Jaʿfar (2008) explain that the present tense indicates the action that takes place at the moment of speaking (now), the future indicates the action that takes place before the moment of speaking, and the past indicates the action that takes place after the moment of speaking. The present is too short to be separate from the future; the action would be in the non-existent/unreal tense and the past a moment later. So, the same verb can be used for the present and the future. The present happens too quickly to be separate from the future; a present action would be in the non-existent/unreal tense and then in the past after a moment has gone by. Thus, the same verb can be used for the present and the future. Actions are inconsistent with the time at which the speaker references them. The past is any action that is no longer happening; it occurs only after the present. The present is too immediate to constitute the future; it is what is happening before the future. At the moment of speaking, the would-be past is soon to arrive, and the future is only a moment ahead (Reishaan and Jaʿfar, 2008).

The Arab grammarian Al-Zajjājī (1984) points to the three verb tenses: past, such as 'he went'; future, which refers to what will happen, such as سأذهب *sa-ʾaḏhabu* 'I will go'; and present, which refers to ongoing action, such as أنا ذاهب *ʾanā ḏāhib* 'I am going', or habitual action, such as هو يذهب كل صباح *huwa yaḏhabu kulla ṣabāḥ* 'he goes every morning'. The three formulas of Arabic verbs are recorded in the language's earliest grammar books, such as the *Al-Kitāb of Sībawayh*. The first formula is called *al-māḍi*, which refers to action in the past, and the second is called *al-muḍāriʿ*, which refers to action 'similar to the noun'. The term *al-mustaqbal* refers to the action in the future. Both the *Kūfah* and *Baṣrah* schools agreed in suggesting two basic formulas for the past and present tenses: فعل *faʿala* and يفعل *yafʿalu*. To indicate the future time of the action, the term مستقبل'future' with the prefix form يفعل *yafʿalu* 'does' is used by the *Kūfah* School; however, it could also be indicated by the use of سـ *sa-* or سوف *sawfa* or any extra auxiliary used to refer to the future. The *Baṣrah* School used the term مضارع *muḍāriʿ* with the prefix form يفعل *yafʿalu* 'does' to denote actions in the present and future, respectively (Reishaan and Jaʿfar, 2008).

Al-Maxzūmī (1964) cites Wright (1896), who claimed that Old English was only divided into the simple present and simple past, tenses used to express various ideas about past, present and future times. Wright (1896) believed that in modern English grammar, the development of tenses had come to comprise multiple aspects, such as progressive and perfect. Wright (1896) also believed that Arab grammarians were not as successful as English scholars in expressing such aspects and that Arabic had only two formulas to

indicate past and present. Al-Maxzūmī (1984), however, argues that Classical Arabic had also evolved, developing new forms to indicate time and actions. For example, auxiliary verbs and particles were used by earlier grammarians to create compound tense forms, such as قد فعل *qad fa ʿala,* كان قد فعل *kāna qad fa ʿala* and كان فعل *kana faʿala*. Al-Maxzūmī (1984) states that early Arab grammarians paid little attention to these forms and their relevance or functions in terms of indicating multiple tenses or aspects, as English scholars had done. Reishaan and Jaʿfar (2008) believe that Wright's (1896) final judgements on Arab grammarians were unfair and emerged from his study of the issue through ancient grammar books of Arab grammarians, such as Ibn ʿAqīl and Ibn Hišām. The morpho-syntactic form is another basis for the classification of tense in Arabic. Reishaan and Jaʿfar (2008) emphasise the similarity between the two languages in the use of a compound verb system to refer to time-related events based on the use of auxiliaries, adverbs and time indicators in verb phrases. While Reishaan and Jaʿfar (2008) confirm that this idea of the use of complex tenses is supported by Arab grammarians like Ibn Yaʿīš (in his explanation about the use of linguistic phenomena to indicate more than one tense, for example, particles such as إذ or إذا refer to all future and past time respectively, and إذ can *only* occur to indicate all past time. The use of all future time and all past time is a sign of their understanding of the different divisions of tenses related to time.[30] Despite the varying views about the relationships between time, action and tense, general agreement prevails that there are two divisions of tenses: past and present/future (Marmorstein, 2016). However, these different viewpoints have also led Al-Xālidī and Zankanah (2012, p.20) to criticise researchers such as Mūskāti,[31]who claims that the Arabic language does not contain enough grammatical categories to express periods comprehensively and accurately. They assert that the reasons for these contradictory views among linguists and Arab grammarians are the earliest Arab grammarians, who divided verb forms into three categories: *al-māḍi, al-muḍāri*ʿ and the command form of the verb.

In this regard also, Al-Dobaian's (2018) morphological analysis of tense and aspect that had been proposed by early Arab grammarians argues that the forms *fa ʿala* and *yafa ʿalu* use noticeably different tense provisions than the past and present/future tenses. Al-

[30] The word 'action' is used in this thesis to refer to such action, event, or any other dentation maybe verb can carry.

[31] One of orientalist Western linguistics who studied Semitic languages.

Dobaian (2018) believes that, by the time of early Arab grammarians, the verb aspect had only received irregular, inconsistent analysis and that the morphological verb forms *fa ʿala* and *yafa ʿalu* were not exclusively used for the default tense. That use of verb form, in fact, made Wright (1896) believe that the Arabic language was deficient compared to English in the signs of different tenses and aspects. Al-Dobaian (2018) believes that the syntactic analysis consistently clarifies the communication of tense and aspect in Arabic and that their related conditions is essential.

So, the relation between time and tense and verb forms exists in Arabic as well as in English. Early Arab grammarians used الزمن الفلسفي philosophical/referential time theory to explain the relationship between time reference, speech of time and event, and the divisions of tense into real/unreal and existent/non-existent based on this relationship (Reishaan and Jaʿfar, 2008; Al-Dobaian, 2018). Some Arab grammarians also used the term 'time' to refer to what the term 'tense' refers in English. However, their understanding of time was based on only two parts: past and present/future. Arab grammarians such as Sībawayh (1966) usually use the term 'verb' to refer to the term 'tense' or morphological tense, using each verb form[32] to indicate its own specified tense. However, the traditional morphological view of Arabic verbs cannot control tense and aspect, which led linguists such as Wright (1896) to criticise Arabic verbs for their lack of multiple tense classifications, as discussed recently in some modern studies, such as Al-Dobaian's (2018). Early Arab scholars connected tense to the Arabic morphological forms: *faʿala* and *yafʿalu*. However, those forms can be associated with multiple tense descriptions.

2.4.2. The views of modern linguists

More recently, several grammarians and linguists have contributed to the consideration of Arabic verb formulas and tenses. Some Western linguists have argued that the verbal forms *faʿala* and *yafʿalu* in Arabic are 'timeless,' which is an opinion that differs from that held by Arab grammarians (Marmorstein, 2016). The views of modern linguists were affected by the introduction of the historical-comparative method to Semitic languages, many scholars of which worked from within a European tradition. In broad terms, the question of whether the verbal system of Arabic is aspect- or tense-oriented is at the centre of considerable debate among modern linguists (Eades and Watson, 2013). Paying attention to the timeline by focussing on the point where the action takes place is a way to consider

[32] Prefixed or non-prefixed verbs.

tense, while paying attention to whether the action is complete or otherwise is a way to consider aspect. In the nineteenth century, the concept of the internal time of the verbal context in Arabic linguistics emerged, even though employing the notion of external or relative time is common among Arab grammarians.

As indicated in this chapter, the terms ‘past’ and ‘present’ are used by some linguists in reference to Arabic (Ryding, 2005), while others prefer to use ‘past’ and ‘non-past’ to distinguish between these two forms. Besides, the terms ‘perfect’ and ‘imperfect’ are used in Western grammars of Arabic (Wright, 1896; Eisele, 1999). Ewald (1891) was among the first linguists to introduce the terms *imperfectum* and *perfectum.* Instead of temporal value, he ascribed meanings to verbs referred to as ‘aspectual’ more recently. Bubenik (2011) adds past/perfective versus non-past/imperfective, and these two forms indicate both the aspect dichotomy ‘perfective versus imperfective’ and the tense dichotomy ‘past versus non-past’.

The terms ‘imperfect’ and ‘perfect’ have since grown into conventional terms for the two verbal patterns. Moreover, new descriptions have emerged to define the aspect and tense terminology that has developed in Semitic languages, with Bubenik (2011, p.8), for example, speaking of three temporal forms in two aspectual subsystems traditionally called ‘imperfectum’ (present, imperfect and future) and ‘perfectum’ (perfect, pluperfect and future perfect).

The analytical expression of the differentiation between a complete situation and an incomplete one is an aspect, which has been defined in Arabic. According to Bubenik’s (2011, p.16) analysis, the development of the terminology used for Semitic languages may be the result of a change in the way the verbal system is described: ‘While the “classical” verbal system of the *Semitic* languages is based on aspect, modern speech tends to found the verb inflection on the notion of time and to express it employing “tenses”.’ Marmorstein (2016), Wright (1896), and Brockelmann (1908, cited in Bubenik, 2011) listed the variety of temporal uses of the imperfect and the perfect while also stressing the distinction between the perfect’s ‘stating’ function and the imperfect’s ‘describing’ function.

French linguists took the philosophy of aspect in Semitic languages, and particularly in Arabic, further. As Marmorstein (2016) asserts in this regard, Cohen (1924) was interested in the Semitic verbal system and offered a comprehensive analysis of the phenomenon of aspect in Semitic languages; for later French Arabists, Cohen (1924) was thus influential.

However, the two primary forms of verbs, *fa'ala,* and *yaf'alu* do not indicate a binary structure of the verbal system. In the study of the general category of verbal aspect, the perfect and the imperfect are repeatedly used in the literature on Arabic linguistics. For instance, Comrie (1985) uses the terms 'perfect' and 'imperfect' or 'perfective' and 'imperfective' as distinguishing forms that refer to a traditional aspect, tense or state in written Arabic. He also discusses particular linguistic features of context used with those Arabic formulas. However, in terms of the verbal system of spoken Arabic, he considers aspect an expression of both aspectual and temporal contrasts. The terms 'perfect' and 'imperfect' can thus be seen as misleading, as they can be associated with different meanings than those often linked with them while also not suggesting functional opposition. Bubenik (2011, p.8) believes that, in the analysis of the system of Classical Arabic, a crucial problem when translating forms is the polysemy of the basic form *kataba* 'he wrote' or 'he had written', which could be seen as both preterite (past) and pluperfect.

2.4.3. The interplay of tense and aspect

English verbs exhibit two tenses: present and past. There are no future tense forms of English verbs. The future tense is formed through the use of 'will' plus the unmarked verb (Dürich, 2006). Dürich (2006, p.7) explains the idea of future tense in English, stating that 'bearing in mind that future references have a modal character [,] since a prediction of future events is always a difficult thing to do, the English tense system can be viewed as binary, consisting of past and non-past'. In terms of aspect, two basic grammatical aspects exist: perfective and imperfective. In English, the term 'past progressive' is used to indicate the imperfective aspect. Imperfect and perfect aspects can be used in conjunction; for example, I *was walking* (imperfect) when *you arrived* (perfect). It *was windy* (imperfect) when *you travelled* (perfect). The perfect aspect tends to be realised by a past tense form, and the imperfect aspect tends to be realised by a present/future tense. The perfect is used to indicate completed action, while the imperfect is used to indicate continuous action (Wikander, 2014).

In Arabic, however, there has been an ongoing debate with regard to the forms of verbs. It is often said that no one way could enable us to understand the logic of the Arabic verbal system (Marmorstein, 2016). Eades and Watson (2013) discuss tense and aspect in Arabic; however, they confirm how understanding the role and function of aspect is difficult. This overlap has made the Arabic verb system the subject of continuous argument, and the

question of whether Arabic has a tense system or an aspect system has been a subject of argument for a long time among linguists. Eades and Watson (2013) have, for example, asserted that the major debate in Arabic linguistics, as well as in other Semitic linguistics, arises concerning the function of the verbal system. They also consider that the verbal systems of Arabic have been categorised alternatively as a mixture of both tense and aspect or marking aspect and tense in separate categories.

This debate among Arab grammarians is a result of particular historical and theoretical factors, as Wright (1896) claims. He maintains that he could not understand what was being expressed in terms of perfective, imperfective or simple aspects in any of the tenses. The difficulty in understanding the function of aspects was the considerable time devoted to the description of time. Odilavadze (2010) also claims that the traditional orientalist views regarding Arabic as a language having 'aspect' rather than 'tense' have influenced the approaches taken by some scholars.

Šākir (2001), on the other hand, claims that previous opinions stand in contrast with Sībawayh's definition of the verb in Arabic, as he defined the verb concerning a specific time, while the descriptions that define the Arabic verb depending on Sībawayh's definition were inaccurate. Šākir (2001) believes that the inaccurate description was due to a misunderstanding of what Sībawayh meant when discussing time in his definition of the Arabic verb. He believes that the descriptions and terms used for Arabic verb formulas built on Sībawayh's explanation might not follow the actual aspects accurately. Ibn Al-Aṯīr (1983) and Al-Sāmrā'ī (1983) also describe how the verbal system in Arabic is not direct, and they discuss the effect of the verb phrase context that may change action time. They also consider how context, in some cases, can alter usual syntactic effects. Verb formulas can be used in different meanings or as other indications that can only be understood using current evidence and context.

Tense also demonstrably interacts with other grammatical categories, including aspect; if action completed, continues and so on, modality and mood. [33] Paying attention to these categories can illuminate the interplay between tense and aspect. Gadalla (2006, citing Raḍwaan, 1975, p.30), however, suggests that '[a]spect and tense should be treated as two independent categories (. . .). Both terms are used to name two different features of verbal patterns. The term "Aspect" covers the semantic ranges of completion versus non-

[33] Modality is a semantic concept connecting to such concepts such as as 'possibility', 'permission', etc., while mood is a grammatical concept.

completion and continuation versus non-continuation, whereas “Tense” covers time reference.’ According to the Arab grammarian Abed (1991), the Arabic verb system has two temporal forms as its basis: a form that defines a completed or perfected act and a form that defines an act that is currently in progress, that is, an ‘imperfect tense’. The past tense employs the perfect conjugation, whereas the simple present tense employs the imperfect conjugation. When the perfect or imperfect aspect is used as an absolute tense, a present or past distinction is indicated, respectively, taking the moment of speaking as the reference point (Slal, 2009).

Clearly, the debate among modern linguists on whether Arabic is tense-specific or aspect-specific continues unabated. El-Sadek (2014) adds that Arabic as a tense language has two finite forms: prefixed and unprefixed (cf. Binnick, 1991; Fehri, 2012). Brustad (1991) notes that the perfective form *fa'al*, the imperfective *yaf'al* and the participle all define actions, events and states from different viewpoints. Brustad (1991, p.59) also defines the terms ‘tense’ and ‘time reference’:

> The first refers to morphological forms; the second, to the role of these forms (and other elements) in establishing the location in time of actions, events, and states with respect to the reference time. In other words, the Arabic perfective and imperfective are tenses, whereas time reference is understood to be a category of the sentence as a whole, and sometimes it is removed outside the bounds of the sentence to the discourse unit.[34]

In this regard, Brustad (1991, p.60) adds that it ‘refers to the description of the verb's action as an event, or process, or state, in contrast to time reference, which refers only to a location in time.’

In terms of aspect, tense, and time reference, Eisele’s approach has been discussed to address questions concerning the Arabic verbal system study. Eisele (1999) categorises approaches proposed by several scholars concerning the issues of aspect and tense into two groups: the ‘aspectualists’ who contend that imperfective and perfective are not temporal but aspectual in nature and the ‘tense-aspectualists’ who claim that these verb forms are combinations of both aspect and tense.

El-Sadek (2014), however, emphasises the interplay of tense and aspect following Eisele’s (1990) account of ECA. According to Brustad (1991, p.58–59), ‘The morphological tenses

[34] Discourse mentions a unit of language extended than a single sentence.

perfective and imperfective represent a past/non-past dichotomy, and aspectually a perfective is an event form, the imperfective is process form, and a participle is a state form.' Schulz et al. (2000, p.286) claim that '[A]s the participles per se do not express a tense in the Arabic language [,] it must be decided by the context which temporal reference is given in particular cases.'

Positing two types of the category, Eisele (1990) also distinguishes between a formal aspect that occurs with a morphological patterns *faʿala,* and *yafʿalu* (expressing an event, process or state) and a lexical aspect that accompanies the lexical entry of a root or stem.[35] Tense and aspect may be conveyed using an auxiliary verb in conjunction with the main verb. Various auxiliary forms can be linked with various forms of lexical verbs, leading to 16 combinations overall. Moving on from Eisele's (1990) explanation of ECA, El-Sadek (2014) suggests that for compound tenses, tense is represented by the auxiliary, while the lexical verb represents aspect. El-Sadek's analysis of possible forms of compound tenses shows that of the 16 possible combinations identified by the theory, only 12 were possible, as shown in Table 2.7 (El-Sadek, 2014).

Table 2.7 Possible compound tenses of the verb *kāna* with perfect and imperfect aspects

Form	Example	Meaning	Result
perfective + perfective	/kānʿamal/	had done	past perfect
perfective + /bi/-imperfective	/kān bi-y-xaṭṭaṭ/	was planning	past habitual progressive
perfective + bare imperfective	/kunt ḥaʿud/	was used to sit	past habitual
perfective + /ha/-imperfective	/kunna ḥa-nm ū t/	was going to die	past prospective
/bi/-imperfective + perfective	/bi-y-kūn māt/	be dead	present perfect-generic
/bi/-imperfective + /bi/-imperfective	/bi-y-kūn bi-yilʿab/	be playing	habitual progressive present-generic
/bi/-imperfective + / ḥa/-imperfective	/bi-t-kūn ḥa-telʿab/	be going to play	prospective present-generic
/ ḥ a/-imperfective + perfective	/ ḥa-n-kūn ḍarabna/	will be already hit	future perfect

[35] Words with independent meaning such as verbs, nouns, adjectives are lexical words. Wikipedia contributors, 'Lexical definition', *Wikipedia, The Free Encyclopedia,* 5 January 2021, 18:39 UTC, <https://en.wikipedia.org/w/index.php?title=Lexical_definition&oldid=998513201> [accessed 15 January 2021]

/ ḥa/-imperfective + /bi/-imperfective	/ ḥa-n-kūn bi-nelʿab/	will be playing	future progressive habitual
/bi/-imperfective + bare imperfective			
/ ḥa/-imperfective + bare imperfective			
/ ḥa/-imperfective + / ḥa/-imperfective			

Table 2-7 appears to indicate that the inflection of the lexical verb is possible in all forms of ECA, that is, the future perfect is provided by the perfective, while the simple imperfective provides the habitual, and so on.

2.5. Summary

This section briefly summarises the views in the literature on the Classical Arabic verb system. As for Arabic derivational and inflectional morphology, the studies mentioned in this chapter reveal the following points:

1. Many nouns and verbs can be built by adding affixes and vowels to three-consonant stems.
2. Derivational morphology primarily affects the stem of the word, nonconcatenative processes tending to be used in derivational morphology and concatenative processes in inflectional morphology. Affixes can be added to the beginning and the end of words in inflectional morphology. Whereas derivational morphology can affect the middle of words.
3. However, nonconcatenative processes also function in some instances of inflectional morphology – such as in **جمع التكسير** broken plurals – and concatenative processes can sometimes be used to produce new lexemes (in derivational morphology Arabic, then, derivational construction is potentially problematic for target language translators and for language learners) (Al-Birini and Enmamoun, 2014). The **جمع التكسير** broken plural is not formulated in the same way as the masculine or feminine plural form; for example, in the two following examples, the masculine or feminine plural is formatted by adding -īn and -āt to a stem that usually takes the singular form:

   fallaḥ 'farmer.m'! fallaḥīn

   fallaḥa 'farmer.f'! fallaḥāt. (Al-Birini and Enmamoun, 2014)

Therefore, we find that learners of the Arabic language have difficulty in formulating the broken plural, giving the plural of *duktūr* ‘doctor’, for example, as *duktūrūn* rather than the correct *dakātirah* (Al-Fāʿūri and Abu-Ġilwūn, 2014).

4. In Arabic, verb forms are divided into المجردة الأوزان ‘simple patterns’, and المزيدة الأوزان ‘derived patterns’, and these must be recognised to understand the actual meanings of words in a text. The derived patterns in Arabic are accompanied by several meanings, some of which may signify time of action by adding أ a- at the beginning of the stem فعل *faʿala*, such as the verb أصبح *aṣbaḥa*, which is built from the stem صَبَحَ *ṣabaḥa* to indicate the meaning ‘the action happened in the morning’.

As for the section on tense and aspect in the Arabic verb system, previous studies have shown the following points:

1. General agreement exists between early Arab grammarians and modern linguistic scholars (e.g., Reishaan and Jaʿfar, 2008; Al-Dobaian, 2018) in their views on time, tense and verb.
2. In Arabic, based on some Arab grammarians’ discussions of time relation, no verb formula can express the present tense without any future connotation. Therefore, the imperfect aspect expresses both the future and present.
3. Expressing the notion that ‘someone is walking now’ is not possible in Arabic using a verbal formula as English does. A non-verbal term, such as an adverb of time, is required to categorically state that an action is taking place at that moment (Abed, 1991, p.119).
5. Early Arab grammarians used **الزمن الفلسفي** philosophical/referential time theory to explain the relationship between time reference, speech about time and events, and the divisions of tense, such as real/unreal and existent/non-existent, were based on this relationship.
6. The term ‘time’ was used by some Arab grammarians to refer to what the term ‘tense’ refers in English. However, their understanding of time was based on only two parts: past and present/future.
7. The term ‘verb’ was usually used by Arab grammarians such as Sībawayh (1966) to refer to the term ‘tense’ or the use of the morphological view of tense. While Sībawayh (1966) uses both verb patterns *faʿala,* and *yafʿalu* , each verb pattern is used to indicate its own specified tense. Reichenbach (1947), in his framework of tenses, refers to ‘time reference’ as a notional category and to ‘tense’ as a morphological category.

8. The traditional morphological view of Arabic verbs cannot control tense and aspect, leading some linguists such as Wright (1896) to criticise Arabic verbs for their lack of multiple tense classifications, as discussed recently in some modern studies, such as Al-Dobaian's (2018). Early Arab scholars connected tense to the Arabic morphological patterns *yaf'alu* and *fa'ala*; however, those forms can be associated with multiple tense descriptions.
9. While there is difficulty in understanding the use of verbs in Arabic to indicate tense and aspect, we can see in El-Sadek's (2014) analysis that, consistent with the views of other linguists who fall under the category of tense-aspectualists, verbs indicate both tense and aspect. Kurylowicz (1973) and Comrie (1976) argue that an Arabic verb indicates both aspect and relative reference to time. On the basis of arguments provided by various linguists, Eisele (1990) asserts that both aspect and tense are expressed in Arabic verbs.
10. There seem to be apparent differences, though slight ones, between scholars in studying verbs and understanding their implications about tense and aspect using semantic and morphological analysis. Early Arab grammarians used the two verbal patterns *yaf'alu* and *fa'ala* to refer to past and non-past, respectively. They investigated the different uses of verb formulas, auxiliaries' verbs and adverbial time indicators in actual sentences, but the morphological divisions of tenses based on those uses has only been established by recent studies to bring the two languages together in terms of verb tense and aspect.

To conclude, the studies in this chapter present the basis for the theoretical background of this research as well as the grounds for choosing a methodology different from previous approaches to the exploration of the Arabic verb system. In addition, this review can be further developed and used for other studies on the system of the Arabic verb in all variations of the language.

Chapter 3 A Corpus-Based Methodology for the Exploration of Classical Arabic Verbs in the Qur'an and Its Translations

Introduction

After providing an overview of previous studies which have attempted to explore the Arabic verb system (i.e., derivational and inflectional morphology as well as tense and aspect), this chapter presents the first stage of a corpus-based exploration of the Classical Arabic verbs in the Qur'an and its translations. It is based on work by Alasmari et al. (2017) and discusses 60 examples of the imperfect aspect يقول *yaqūlu* with the QAC, the resource and data-analysis provider of the corpora in this research. It can be situated in the exploratory stage of deciding on a novel method and state-of-the-art technology to explore the Arabic verb system in the Qur'an and its translations. A chapter is devoted to this study only because it provides an important description of the QAC as the major tool in this research, and the data analysis in this paper is only part of the full data analysis of the collected data. This chapter is composed of six sections, the first three generally describing the corpus-based methodology with the QAC in Arabic linguistics and translation. The following two sections report the method used in the pilot study to explore the effectiveness of the QAC and the results, and the final section ends with some concluding remarks to this chapter. The importance of this chapter is that it demonstrates how the chosen corpus-based methodology can be employed to serve the present interdisciplinary research, which sets out to impact both Arabic linguistics and translation studies.

3.1. Using a Corpus-Based Methodology in Arabic Linguistics

Today, corpora have become main computational tools in teaching and studying languages. A corpus (plural: 'corpora') is defined by the Cambridge Dictionary (2016) as 'a collection of a single writer's work, or of writing about a particular subject' or 'a collection of written or spoken material stored on a computer and used to find out how language is used'. Corpora in language studies are particularly relevant, as they can contain much information about all aspects of language. This tool can be used in many linguistic research areas, such as language teaching and learning, applied linguistics, lexicography, etc., as well as for

bilingual concordance (Alfaifi et al., 2014).[36] Accordingly, this chapter aims to discuss the use of corpus linguistics in the study of Arabic-language texts in terms of syntax and morphology. It also discusses the use of parallel corpora to research English–Arabic translation, such as the use of the Qur'anic Arabic corpus to explain how the verb systems of both Arabic and English could be explored using Qur'anic Arabic, particularly the similarities and differences between them. This chapter provides an understanding of morphological and syntactical structures of Arabic and English verbs in their syntactic contexts. A corpus is a tool 'that enables linguists to make objective statements rather than . . . subjective' (Al-Ansary et al., 2014). It thus allows researchers to empirically analyse many texts in terms of linguistic issues such as syntax, semantics, lexicography, natural-language processing and other language studies, which could potentially not be undertaken in any other technique. Corpus linguistics enables students reviewing a foreign language to identify possible contexts in which to respond to the word. Scholars interested in English have many opportunities to use corpora as powerful tools for learning and teaching or for the development of machine translation, whereas the use of corpora in Arabic language studies has received considerably less attention (Alfaifi et al., 2014). The corpus linguistic methodology gives researchers real examples analysed in different ways by either the analytical reading method or a computer. This enables the researcher to be an objective analyser rather than a subjective one (Mansour, 2013).

Arabic words can be changed according to their nominal cases (nominative الرفع, accusative النصب or genitiveالجر). Using a corpus can help researchers discover the changes a word undergoes. For example, the differences between the word الطالبان *al-ṭālibān* and الطالبين *al-ṭālibayn* are due to the case of the noun. Al-Ansary et al. (2014) make a significant point about the benefit of a corpus-based approach and the use of empirical methods over the theoretical ones usually used to study language issues.

3.1.1. Examples of using a corpus in the study of grammar

Investigating morphological characteristics

[36] A concordance is a listing of each occurrence of a word (or pattern) in a text or corpus, presented with the words surrounding it. A simple concordance of "Key Word in Context" (KWIC) is what is usually referred to when people talk about concordances in corpus linguistics (Wynne,2008).
I had done some experiments using 'concordance' filter of AntConc Tool to find the key word of the translations (e.g. the most translation used of imperfect aspect. See Appendix B.
In corpus linguistics, a collocation is a series of words or terms that co-occur more often than would be expected by chance.

Using a corpus for morphological analysis allows users to explore prefixes, suffixes and infixes that can be added to verbs. For instance, the Arabic verb كتب *kataba* 'he wrote' may be given various meanings regarding number, person, or aspect by adding different prefixes or suffixes*:* كتب *kataba* 'he wrote', تكتب *taktubu* 'she writes' and سيكتب *sa-yaktubu* 'he will write'.

The distribution and function of syntactic constructs

Based on corpus linguistics, the investigation of the distribution of words can be used by grammarians to examine the rules of a language's syntax restrictions (Al-Ansary et al., 2014). The present perfect tense in English, for example, is primarily a verb ending in -d, -ed, or -n. It is formed with the conjunction of have/has + past participle. It can be used to express a nonspecific time using terms such as 'once', 'many times', 'so far', 'several times', 'ever', 'never', 'before', 'already', 'yet', etc (Nordquist, 2019). In Arabic also, syntactically, there are three kinds of moods: the jussive, subjunctive and indicative. The jussive mood can be found after certain linguistic features; for instance, the imperfect aspect can be found in jussive mood after the negative particles لم *lam* or the imperative particle لا *lā (*Sībawayah, 1966). Therefore, the use of a corpus facilitates the work of grammatical analysis, researching keywords, etc.

3.2. The Need for Parallel Corpora to Research English–Arabic Translation

The effectiveness of developing a parallel English-Arabic corpus has not been given appropriate attention in the Arab world (Al-Ajmi, 2004; Alotaibi, 2017). The Arab world's tendency to avoid parallel corpora leads to uncertainty and doubt as to the significance of lexical data in bilingual dictionaries, grammars and parallel translations into English (Al-Ajmi, 2004). Alotaibi (2017) believes parallel corpora in Arabic are unsatisfactory compared to other languages because they are small, inaccurate or expensive, and some restrict researchers in terms of their genre to meet research and academic requirements. In this regard, Alotaibi (2017, p.323) explains that through "a review of the literature, Al-Sulaiti & Atwell (200) demonstrate a lack of studies that explore the impact of using parallel corpora on Arabic learners or Arab EFL learners. It seems that this potentially useful tool has not yet been explored enough".

More linguistic corpora have been created by those interested in computational usage or the development of machine translation systems than those interested in linguistics research

(Al-Ansary et al., 2014). Therefore, the corpora they use are designed differently than those designed to work with grammatical information or characteristics observable in syntactic contexts, which, in the past, might have been obtained purely by manual analysis. Mansour (2013) calls for studying the Arabic language and its morphology, syntax, stylistics, contrastive linguistics, sociolinguistics, translations, etc., using computer corpus tools, indicating his belief that the Arabic language has not taken full advantage of computer corpora.

The comparison between Arabic and English using a parallel corpus, such as the Qur'anic Arabic corpus, which includes several translations into English, can illuminate differences in meaning and grammar according to context and translation problems (Al-Ajmi, 2004). Using the Qur'anic Arabic corpus in my research allows me to study verbs in context to examine how they are translated into English. Figure 3.1 shows the seven translations in English that are used to translate Qur'anic verses.

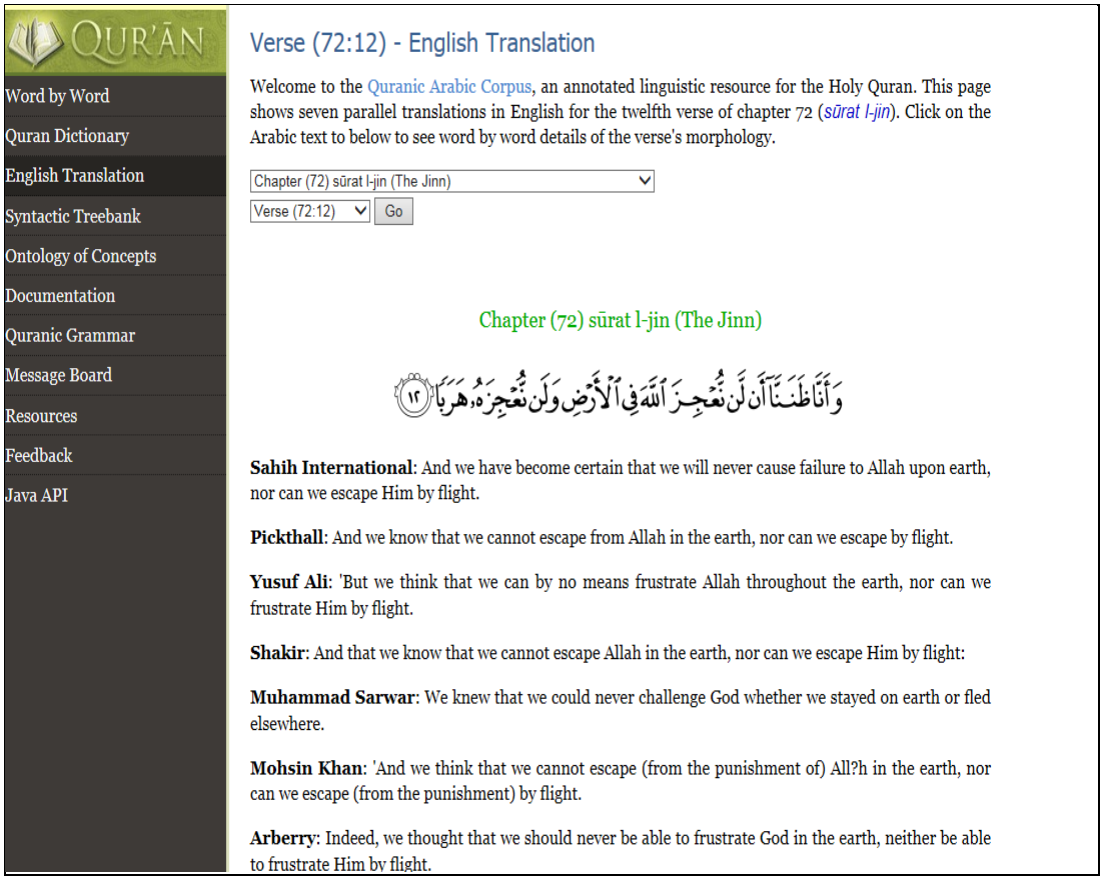


Figure 3.1 Use of the Qur'anic Arabic corpus to show English translations

3.3. Using the Qur'anic Arabic Corpus for Verb System Studies

To morphologically and grammatically analyse words and sentences in Arabic, the Qur'anic Arabic corpus, which is a published linguistic corpus, can be used. The Qur'anic Arabic corpus is a tool to perform experiments and further research using its web-corpus manager and its user interface, such as the 'Quranic Grammar' or 'Syntactic Treebank' functions, which shows the Arabic grammar, morphology and syntax of each word in the Qur'anic text. Moreover, the Qur'anic Arabic corpus allows linguists to search for language forms, such as lemmas and tags, and examine frequency statistics. This research investigates the evidence of the benefit of using this software in the qualitative analysis of tense and aspect of the Arabic verb, which can be further used to analyse other forms in Arabic and their translations (e.g., nouns, adjectives, etc.). The Quranic Arabic Corpus is a vital tool that allowed me to search in the root and stem of words to discover the morphological annotations, a syntactic treebank and a semantic ontology.

The figures below show the function of the Qur'anic Arabic corpus in Qur'anic text analysis:

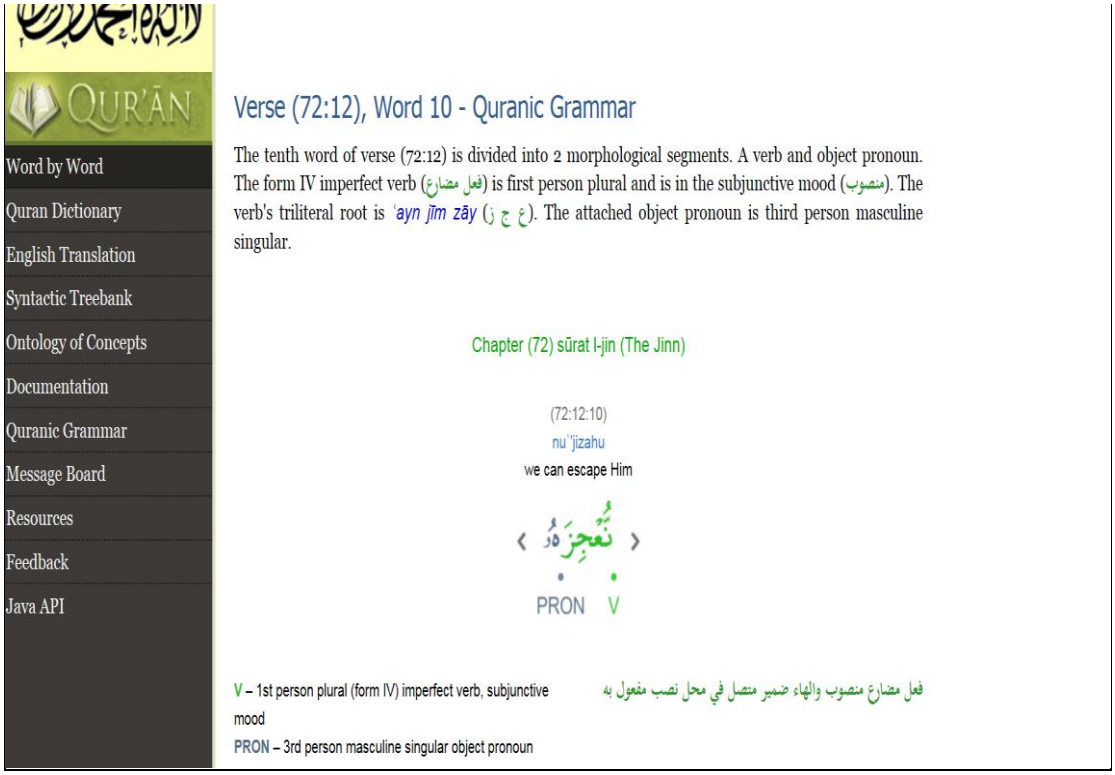


Figure 3.2 The use of the Qur'anic Arabic corpus in the analysis of Qur'anic grammar, morphology and syntax

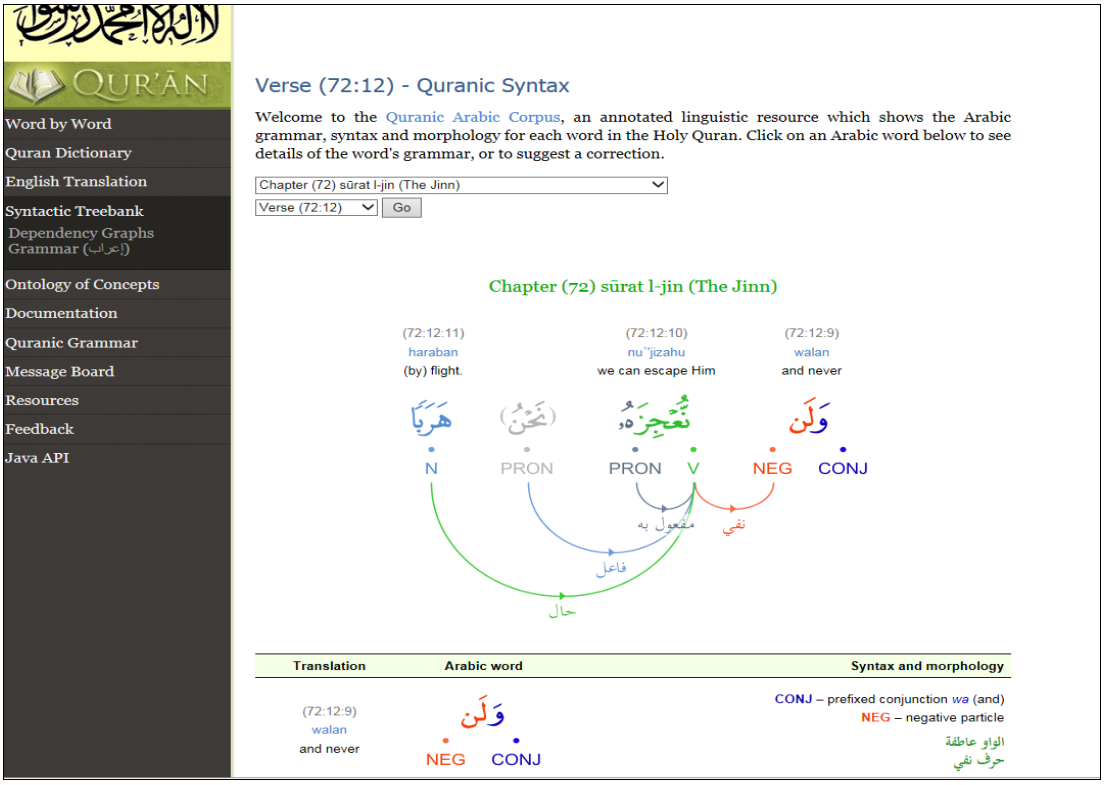


Figure 3.3 Use of Syntactic Treebank of the Qur'anic Arabic corpus in the analysis of the verb syntax

Choosing the Qur'anic Arabic Corpus (QAC) allows me to discuss the use of Classical Arabic verbs in their contexts and determine if their morphology and syntax affect their functions to indicate events and actions with relation to tense and aspect. The use of this in collecting data of the Arabic verb in the Qur'an helped me in reflecting how it is rendered in English translations of the Qur'an. Google analytic shows that Qur'anic Arabic Corpus (QAC) is used worldwide and used in 165 countries by 2,500 people. As each word of the Quran is tagged with its part-of-speech and various morphological features, its morphological annotation has been made available for the public to download. This helped me use those morphological features and their tags to build the dataset used in the classifications via Weka. I decided to use only the seven translations used by QAC as it confirms that in the website of QAC "Corresponding English words are based on standard and accepted sources of the English translation of the Quran, including Sahih International, Mohammed Pick hall, Yusuf Ali''. For each Arabic word in the Quran in the website of QAC, the Sahih International is the first used contextual interlinear translation in English. Therefore, it is the first translation used in this research and was adopted as a primary source. Kappa's results also show that it is the most agreement translation used with the rest of the six translations through the analysis.

The method section of this chapter clarifies how I used the Quranic Arabic corpus in my analysis**.**

The Arabic language has a verb system which differs significantly from that in English. Over several years, various revisions and studies have been observing the variances between the verb systems in Arabic and other languages (Gadalla, 2002, 2006, 2017; O'Brien 2003; Reishaan, A. and Jaʿfar, A., 2008, Al-Baʿ, 2011; Palmer, 2016). Despite this, the Arabic verb system has not been widely studied in corpus linguistic terms.
Arabic has a system of morphology which differs from that in English and other Indo-European languages (Sawalha, 2011). In Arabic, a verb is formed by the insertion of three to four consonant roots into one of many verb patterns. The verb suffixes and prefixes are then affixed to these templates to locate places in the linear construction regarding number, person, gender, tense, etc. For example, **يكتب** *yaktubu*, **تكتب** *taktubu*, **أكتب** *aktubu*, **نكتب** *naktubu* (dual/pl.), **يكتبا** *yaktubā* and **يكتبن** *yaktubna* express imperfect aspect, person, gender and number with the same consonantal root conveying related meanings; the suffixes *-tu* and *-nā* in **كتبتُ** *katabtu* and **كتبنا** *katabnā* indicate first-person singular and plural, respectively, in perfect aspect. From the root **كتب** *ka-ta-ba*, the passive voice is **كُتِب** *kutiba*, which, in English, means 'it was written' (Bahloul, 1994). Every verb inflection is quantified exclusively (Gadalla and Abdel-Hamid, 2002).

Understanding the correspondence between the verb form and the concept of time, whether past, present or future, is an essential aspect of any language. Both Arabic and English grammarians have made many attempts to define these communications (Reishaan and Jaʿfar, 2008). Lewis (1986) argues that this topic is important to offer an understanding of the differences between completed and uncompleted actions, their time points and stages or periods, immediate and sequential events, and comparisons between the past and future. A reason that Arabic and English grammarians are interested in this topic may be the challenge of reliably translating between Arabic and English, since the Arabic language does not share the same method of constructing verb tenses and aspects (Gadalla, 2006; Muftah and Rafik-Galea, 2013). Obeidat (2014, p.63), in his study of the past perfect aspect translated into Arabic, noted that 'translating the English past perfect aspect into Arabic involves a lack of formal grammatical equivalence between the two languages'. The

sympathetic of the morphemic composition[37] and forms of Arabic and English verb tense and aspect, as well as investigative particles in their syntactic contexts using a parallel corpus, is therefore a vital step towards revealing details in Arabic translations (Shamaa, 1978).

3.4 Method

As mentioned before (see chapter one, the methodology) in the Qur'anic Arabic corpus, in many contexts, there are 1,475 verbs. For example, there are 1,616 occurrences alone of verbs with the root **قول** *qa-wa-la.*

As the first stage in this research, all contexts of the most common verbs in the Qur'an, namely the verbs **قال** *qāla* and **كان** *kāna*, are considered by building a corpus of these verbs with their English translations. The translations are classified into the corresponding classifications of tense and aspect, such as past simple tense, present simple tense, etc. These are then compared with their parallels in the target texts and analysed in terms of syntactic and morphological features. The study then considers the translation strategies that typically need in translating. These sentences are analysed under the structure of tense, aspect, gender, person, etc. A frequency count of the verb translations is then performed to explain how Arabic verbs can be translated into English. A verb sub-corpus with their contexts is manually collected from the Qur'anic Arabic corpus. The following questions are then be addressed using the sub-corpus:

- How do these verbs agree in P (person), N (number) and G (gender)?
- To what extent do the Qur'anic Arabic verbs in their English translations use the same tense or aspect in these examples?
- To what extent do the Qur'anic verbs in these examples denote tense, aspect or both (past, present, and future/simple, completed, continuous, or relating to another action)?

3.4.1. The sub-corpus verb analysis considered in Arabic–English translation

A list of the first 60 examples is selected to begin a contrastive analysis of the imperfect aspect يقول *yaqūlu*. One object of this study is to investigate how the Qur'anic contexts

[37] The nominal units of denotation or syntactic function are the morphemic composition that is used to procedure words.

employ verb aspect to indicate person, gender, number, and action related to time. Another object is to discover the most common translations of the verb يقول *yaqūlu*. Next, these sentences were gathered; Excel was used to sort the 60 examples to clarify the analysis. The examples, extracted from the Qur'anic Arabic corpus, were divided into different fields in Excel; one field for verb verses in Arabic, one for English verb transliteration and one for the morphological analysis explaining verb aspect, mood, number, person or gender. The verbs in English translations were taken from Sahih International, Yusuf Ali, Muhammad Sarwar, Pickthall, Mohsin Khan, Arberry, and Shakir and Arberry. The appropriate English tense and aspect is added in one field. Different colours were used to separate tenses and aspects in each of the seven translations.

Table 3.1 Sub-corpus of all the 'verses' containing the imperfect aspect **يقول** *yaqūlu*, with its translations and morphological analyses

The verb	Morphological analysis	The chapter	The verse	Sahih Internat ional	1	Pickth all	2
نَقُولُ/ naqūlu	1st-person plural imperfect verb, subjunctive mood	The 40th verse of chapter 16 (sūrat l-naḥl)	**إِنَّمَا قَوْلُنَا لِشَيْءٍ إِذَا أَرَدْنَاهُ أَنْ نَقُولَ لَهُ كُنْ فَيَكُونُ**	but that we say	present simple	only that we say	present simple
لِيَقُولُوا / liyaqūlū	3rd-person masculine plural imperfect verb, subjunctive mood	The 53rd verse of chapter 6 (sūrat l-anʿām)	**كَذَٰلِكَ فَتَنَّا بَعْضَهُمْ بِبَعْضٍ لِيَقُولُوا أَهَٰؤُلَاءِ مَنَّ اللَّهُ عَلَيْهِمْ مِنْ بَيْنِنَا**	might say	present perfect	say	present simple
وَلِيَقُولُوا / waliyaqūlū	3rd-person masculine plural imperfect verb, subjunctive mood	The 105th verse of chapter 6 (sūrat l-anʿām)	**وَكَذَٰلِكَ نُصَرِّفُ الْآيَاتِ وَلِيَقُولُوا دَرَسْتَ**	will say	future	may say	present perfect
يَقُولُوا / yaqūlū	3rd-person masculine plural imperfect verb, subjunctive mood	The 50th verse of chapter 9 (sūrat l-tawbah)	**وَإِنْ تُصِبْكَ مُصِيبَةٌ يَقُولُوا قَدْ أَخَذْنَا أَمْرَنَا مِنْ قَبْلُ**	say	present perfect	say	present simple

3.5. Results and Concluding Remarks

The analysis provides the following findings, some of which are indicated in Table 3.1:

1. In the indicative mood, the imperfect aspect **يقول** *yaqūlu*, the prefix conjugation verb, was interpreted into English as follows: talks, saith, commands, speaks and

says. This finding indicates that the present simple tense is the most agreed-upon translation used to translate the imperfect aspect in the indicative mood**.** [38]

2. The imperfect aspect **يقول** *yaqūlu*, the prefix conjugation verb, was translated into English in several tenses or aspects. This finding shows that in English, many tenses or aspects can be used to express the location of action in time, whether the action happens in a single block of time, continues or repeats. In contrast, in Arabic, the action and time can be indicated through particles and lexical and auxiliary verbs based on the meaning. Table 3.2, for example, shows the various tenses and aspects used to translate the imperfect aspect in Arabic:

Table 3.2 Translation of the imperfect aspect **يقول** *yaqūlu* in terms of tense and aspect

The verb form in its translations	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry	Total
Present simple	30	35	33	29	32	31	28	218
Past simple tense	4	2	1	4	2	3	4	20
Present perfect continuous	1	0	0	0	1	0	0	2
Future	23	18	20	22	17	21	21	142
Passive	1	0	0	0	0	1	0	2
Perfect (would, used to, may, might and should)	1	3	6	3	0	4	2	19
Infinitive	0	1	0	1	0	0	0	2
Noun	0	0	0	1	5	0	4	10
Past continuous	0	1	0	0	0	0	1	2
Comprehensive translation of meaning	0	0	0	0	3	0	0	3
Conditional perfect	0	0	0	0	0	0	0	0
Total	60	60	60	60	60	60	60	420

[38]The imperfect aspect in contemporary linguistics (where the verb is an incomplete sentence). Based on accepted terminology in related research, the term 'imperfect aspect' is used in this thesis to indicate incomplete action in Arabic verbs. In Arabic, the term **المضارع** is used to indicate incomplete action, while other research uses the present tense or non-past tense terms.

Table 3.3 Translation of the imperfect **يقول** *yaqūlu* ‘says’ in terms of tense and aspect

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
إِذْ يَقُولُ الْمُنَافِقُونَ وَالَّذِينَ فِي قُلُوبِهِمْ مَرَضٌ غَرَّ هَٰؤُلَاءِ دِينُهُمْ	said	said	say	said	say	said	said
وَلِيَقُولَ الَّذِينَ فِي قُلُوبِهِمْ مَرَضٌ وَالْكَافِرُونَ مَاذَا أَرَادَ اللَّهُ بِهَٰذَا مَثَلًا	will say	may say	may say	may say	say	say	may say

More examples that are used to explain how the Arabic verbs are used in the context using particles or lexical or auxiliary verbs to indicate actions or how those verbs are translated to English, for example, the past simple tense was used to translate the imperfect aspect after the question particle ‘why’ in the verse that tell how disbelievers of Allah’s prophets, who came before the Prophet Muhammad, contradicted themselves by saying that they only believe in what was revealed to them previously.

وَإِذَا قِيلَ لَهُمْ ءَامِنُوا۟ بِمَآ أَنزَلَ ٱللَّهُ قَالُوا۟ نُؤْمِنُ بِمَآ أُنزِلَ عَلَيْنَا وَيَكْفُرُونَ بِمَا وَرَآءَهُۥ وَهُوَ ٱلْحَقُّ مُصَدِّقًا لِّمَا مَعَهُمْ ۗ قُلْ فَلِمَ تَقْتُلُونَ أَنۢبِيَآءَ ٱللَّهِ مِن قَبْلُ إِن كُنتُم مُّؤْمِنِينَ ﴿٩١﴾

فَلِمَ تَقْتُلُونَ أَنْبِيَاءَ اللَّهِ مِنْ قَبْلُ

Sahih International: And when it is said to them, "Believe in what Allah has revealed," they say, "We believe [only] in what was revealed to us." And they disbelieve in what came after it, while it is the truth confirming that which is with them. Say, "Then why did you kill the prophets of Allah before, if you are [indeed] believers?"

The present perfect tense was also used in the translation of Mohsin.
Mohsin Khan: And when it is said to them (the Jews), "Believe in what Allah has sent down," they say, "We believe in what was sent down to us." And they disbelieve in that which came after it, while it is the truth confirming what is with them. Say (O Muhammad Peace be upon him to them): "Why then have you killed the Prophets of Allah aforetime, if you indeed have been believers?"

3. Prefixes and affixes added to verb aspects in terms of number were dissimilar in some sentence translations that provided the same tense. This result may indicate the difficulty of determining the number of verbs (singular or plural) in some Qur’anic contexts. For example, the imperfect **يقول** *yaqūlu* was employed in the

singular form, but some translations rendered it without the English singular suffix -s.

Table 3.4 The use of the imperfect **يقول** *yaqūlu* 'says' to indicate the singular person, with its translations

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
فَيَقُولَ رَبِّ لَوْلَا أَخَّرْتَنِي إِلَىٰ أَجَلٍ قَرِيبٍ	says	saith	should say	should say	say	says	says

Figure 3.4 The use of the Qur'anic Arabic corpus to search the verse's morphology, with its translations

4. The sub-corpus analysis reveals that the imperfect aspect sometimes indicates the future tense in context, not through morphological particles. The future tense is used to predict a future event or action. It is also used to express what is to happen in future events or actions. For example, on the Day of Judgment, the Prophet Jesus will be a witness to those who believed or not believed on him. This is expressed in the following words:

وَإِن مِّنْ أَهْلِ ٱلْكِتَٰبِ إِلَّا لَيُؤْمِنَنَّ بِهِۦ قَبْلَ مَوْتِهِۦ ۖ وَيَوْمَ ٱلْقِيَٰمَةِ يَكُونُ عَلَيْهِمْ شَهِيدًا ﴿١٥٩﴾

يكُونُ عليهِم شَهِيداً

Pickthall: There is not one of the People of the Scripture but will believe in him before his death, and on the Day of Resurrection he will be a witness against them -

Similarly, predicting what will happen to the one who takes Allah's book with his right hand on the Day of Judgment, the Qur'an says:

فَأَمَّا مَنْ أُوتِىَ كِتَٰبَهُۥ بِيَمِينِهِۦ فَيَقُولُ هَآؤُمُ ٱقْرَءُوا۟ كِتَٰبِيَهْ ﴿١٩﴾

فيَقُولُ

Sahih International: So as for he who is given his record in his right hand, he will say, "Here, read my record!

The future tense was also used when someone makes a promise. An example of this are Allah's promises on what will take place on the Day of Judgment.

For the angels ,Allah makes the following promise:

ٱلَّذِينَ تَتَوَفَّىٰهُمُ ٱلْمَلَٰٓئِكَةُ طَيِّبِينَ ۙ يَقُولُونَ سَلَٰمٌ عَلَيْكُمُ ٱدْخُلُوا۟ ٱلْجَنَّةَ بِمَا كُنتُمْ تَعْمَلُونَ ﴿٣٢﴾

يَقُولُونَ

Sahih International: The ones whom the angels take in death, [being] good and pure; [the angels] will say, "Peace be upon you. Enter Paradise for what you used to do."

5. The participle 'saying' in Arberry's translation is used to translate the imperfect aspect يقول *yaqūlu* to indicate the present tense. The present tense here refers to a steady action or action that happened over a long time.

This paper concludes that the variances and similarities between Arabic and English verb systems offer details that can be used to improve the translation of Arabic into English as well as aid the further development of machine translation. The verb system in a comparative study may need to reflect the following syntactic categories:

- Grammatical relations, such as pronoun, object, direct object, subject and indirect object. In this regard, Kibrik (2001) states that the features of grammatical relationships indicate both denotation and connotation.[39]
- Grammatical group, such as tense, aspect, person, number, gender, mood case, voice, etc.
- A semantic analysis of word contexts considers verbs in the context of what was said or locates their time points or places. For example, when verbs in the Qur'anic context are used in negation, assertion, demand, prohibition, etc., semantically, different moods can occur. Chapter 4, Section 4.1 discusses the various meanings of verbs in detail.
- Translators require an analysis of the entire context of a sentence to reflect the agreement structures of the transcript between the verb and other elements of linguistic contexts, such as subjects, pronouns or time of actions.
- In Arabic, time and action can also be expressed using nouns: nominal derivatives اسم الفاعل والمفعول, roots and participles (Leech and Svartvik, 1975). However, in the Qur'anic context, every word has been specifically chosen because of its reference to a particular meaning in the context. Translating the Arabic verb aspect into an appropriate English verb may help to clarify the tense with greater accuracy.

Another concluding observation on the QAC in this paper is that this tool can provide learners and researchers in the fields of language, linguistics and computational studies with a wealth of relevant information. It could also pave the way for researchers to study morphological and syntactic structures of the language of the Qur'an through computational studies.

3.6. Conclusion to this Chapter

The QAC is an important computational tool for the study of the Arabic language, particularly Qur'anic translation studies. For a study of the language of the Qur'an (e.g., verbs in the Qur'an) in Arabic linguistics, examples can be obtained from the corpora provided in the QAC with colourful representations of the morphological forms and

[39] Connotation uses a word to submit a different association than its literal denotation. For example, the verbs *asbaha* and *amsa* in Arabic can be used to indicate the meaning of morning or afternoon or to indicate the intention of becoming.

syntactical structure of the Arabic words in the Qur'an. Furthermore, the QAC can be employed in Qur'anic translation studies via the use of parallel corpora to conduct comparative studies, to evaluate translations or otherwise to compare the language systems of Classical Arabic and English. Hence, the preliminary part of the methodology presented in this chapter is the platform on which the following chapter explores the research data, presenting the second stage of investigating the Arabic verb system in the Qur'an and its translations.

Chapter 4 Methodology Part 2: The Corpus-Based, Comparative Exploration of Classical Arabic Verbs in the Qur'an and Its Translations

Introduction

This chapter is based on the work of Alasmari et al. (2017, 2018), presents the second part of this paper's methodology and demonstrates how I used the method explained in the previous chapter to compile the wider range of research data from the QAC to explore Classical Arabic verbs in the Qur'an and its translations. To do so, it compiles the data to qualitatively analyse via a parallel reading the features of Arabic verb aspects and English aspect and tense (e.g., the linguistic contexts of Qur'anic verbs). The published papers represent the qualitative data analysis that is part of the mixed approach in this research. Furthermore, it presents the two experiments which apply quantitative analyses via SPSS and Kappa function in SPSS and the decision tree in the Waikato Environment for Knowledge Analysis (WEKA). The methodological steps and data analysis in the first experiment investigates the differences between Arabic and English verbal systems in their indication of tense and aspect, and the ones in the second experiment classify the English translations of the Arabic verbs in the Qur'an. Chapter 5 reports the findings of these studies, and Chapter 6 discusses them in light of the overarching research questions. This chapter, however, is composed of four sections presenting the research's methodological steps, followed by a conclusion.

4.1. A Comparative Study with SPSS

Descriptive statistics using SPSS provide frequencies, which are counts of the number of times each variable occurs. Descriptive statistics using Kappa measure the average agreement of the variables. Chosen's Kappa is primarily used to measure the agreement between two categorical variables of the same observation, and Fleiss's kappa is used to measure the level of agreement between two or more raters[40] (Altman, 1991; Laerd Statistics, 2019). Both are generally thought to be stronger measures than percentage-agreement calculation, as Kappa also subtracts agreement due to chance. As Simon explains (2008), 'Kappa measures the percentage of data values in the main diagonal of the

[40] In statistical studies, Lange (2011) explains that "Inter-rater reliability is the extent to which two or more raters (or observers, coders, examiners) agree. It addresses the issue of consistency of the implementation of a rating system. Inter-rater reliability can be evaluated by using a number of different statistics".

table and then adjusts . . . these values for the amount of agreement that could be expected due to chance alone.'

Kappa takes a value of 1 or less. A perfect or complete agreement has a value of 1, a value of less than 1 indicates moderate or low agreement, and zero indicates chance agreement (Simon, 2008).[41] Table 4.1 expresses more details of the specific interpretation of the 'visualised' interpretation of Kappa as provided by Viera et al. (2005, p.362):

Table 4.1 Interpretation of Kappa

Poor	Slight	Fair	Moderate	Substantial	Almost perfect agreement
0.0	.20	.40	.60	.80	1.0

< 0	Less than chance agreement
0.01–0.20	Slight agreement
0.21–0.40	Fair agreement
0.41–0.60	Moderate agreement
0.61–0.80	Substantial agreement
0.81–0.99	Almost perfect agreement

Employing the SPSS statistical tool and its Kappa feature to measure the agreement between translations, an analytical method can be used to establish the average agreement and disagreement between the seven translations of Qur'anic Arabic verbs. A statistical analysis could thus help provide a general picture of the use of Qur'anic verbs to straightforwardly indicate tense and aspect and their translations.

Kappa helps show whether the agreement between translations is poor, perfect or somewhere in between, which may constitute further evidence of the differences between them. This disagreement may result from the various strategies that the translators use when translating Quranic Arabic verb aspects. Kappa is used to evaluate the disagreement between translations as a stronger measure than the SPSS percentage-agreement calculation while also considering the possibility of agreement occurring by chance. Kappa measures the quantity of agreement over and above the agreement that is expected by chance as an alternative to measuring the total quantity of agreement.

[41] Simone (2008) provides the following discussion of the possible interpretation of Kappa's value: poor agreement = less than 0.20, fair agreement = 0.20–0.40, moderate agreement = 0.40–0.60, good agreement = 0.60–0.80 and very good agreement = 0.80–1.

Structuring the data for use in SPSS

The value of Kappa was defined depending on the Qur'anic corpus morphology or syntax analysis of the verbs as perfect, imperfect, imperative, subjunctive, jussive, indicative and passive perfect or imperfect, which are needed to consider the different translations of verb aspects. The perfect Arabic tense was translated into English as 'say', 'said', 'saying', 'they were saying', 'are saying', 'says', 'will say', 'shall say', etc. By using the SPSS data editor window (Figure 4.1), the options 'views', 'data view' and 'variable view' were used to record and save the data. 'Variable view' was used to display the following information in columns: data name, data type, measure, values, etc. Data types were set as either string or numeric.

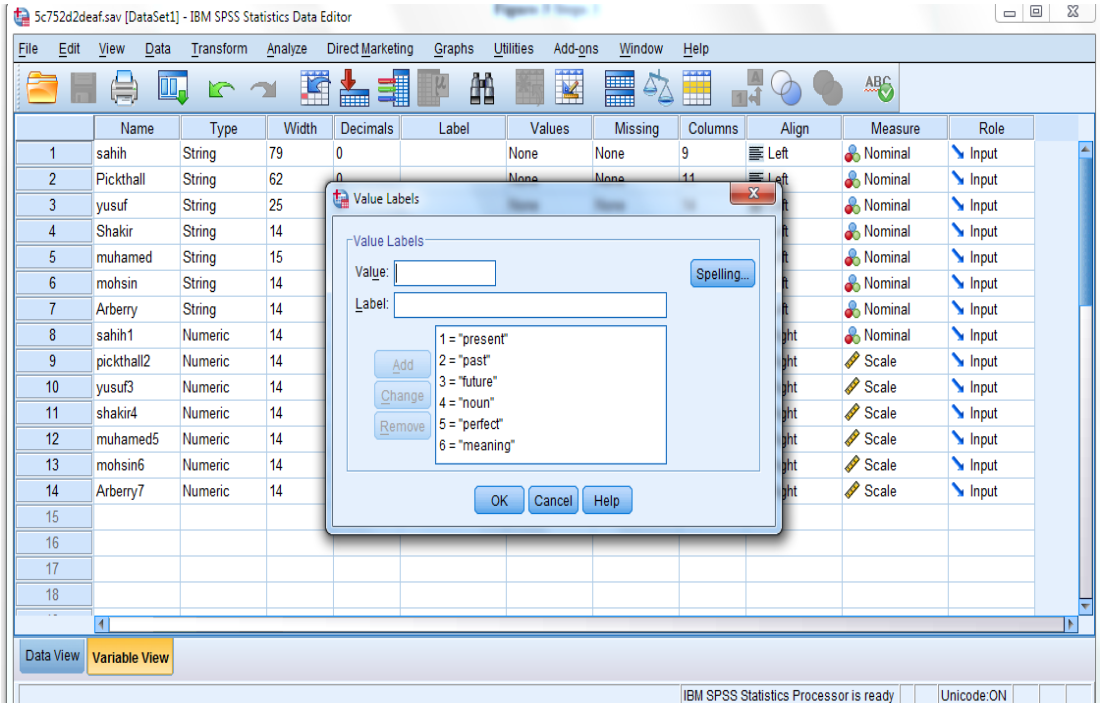


Figure 4.1 Value tags

The tags were divided according to verse chapters, English verb tenses and their translations. See Figures 4.2 and 4.3.

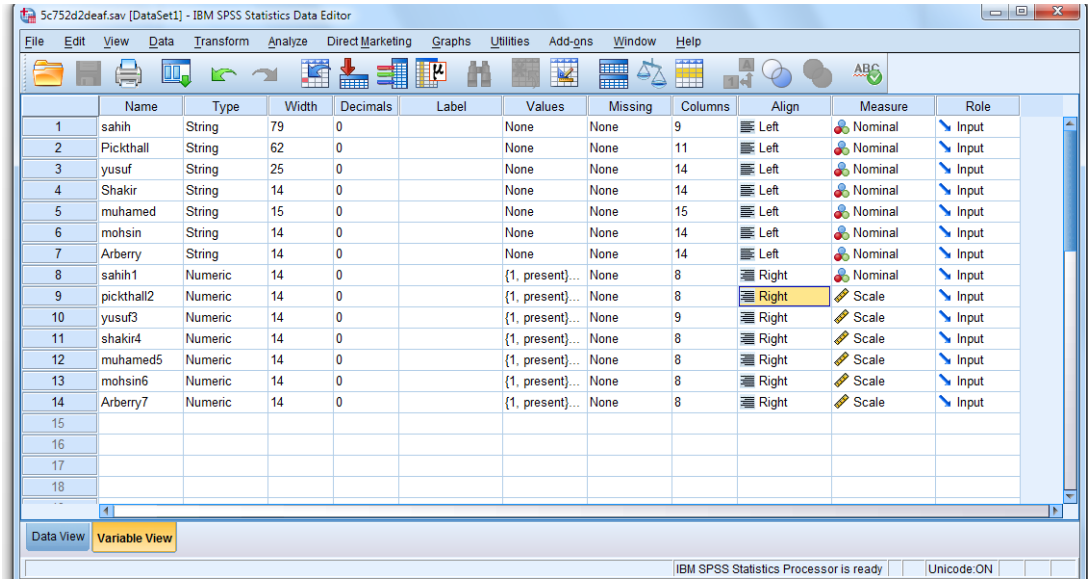


Figure 4.2 Entering and saving data in the data editor window

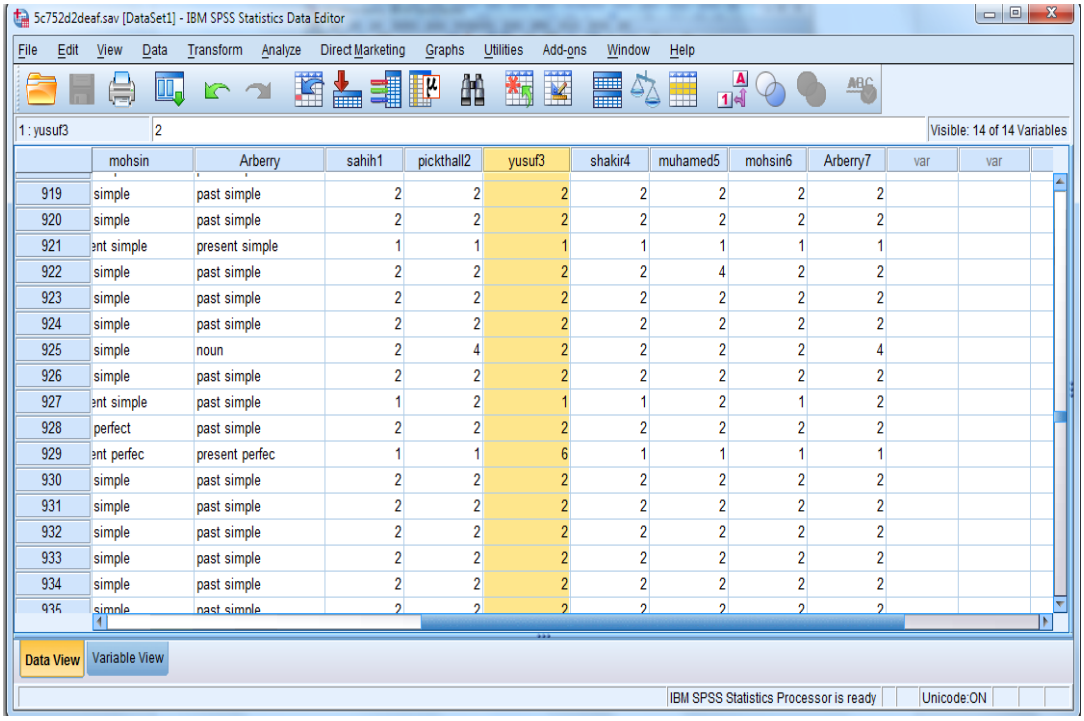


Figure 4.3 Entering data in the data view

4.2. Parallel Analysis

Parallel text and reading techniques were the first steps used in finding incompatibility between the two languages. In addition, based on the SPSS experiment results in the previous section, a parallel analysis was performed using Microsoft Excel to find the similarities and the differences between the two languages. In this regard, I chose the two

techniques to establish the contrastive analysis between the Qur'anic verb examples and their translations. In the review of some literature pieces, I found that the two methods can be used to do equal occupation, but some researchers believe that there is a difference between them. Reading analysis allowed me to recognise the most appropriate translations employed to translate the target verbs in their context, and analyzing the combination of the context to find out the morpho-syntactical features that could be measured by translators when choosing the translation.

Gadalla (2006) uses this method in his corpus analysis of two novels written by Naguib Mahfouz, arguing for the parallel text technique mentioned by Hartmann (1980), who used it to analyse and evaluate the translation of 'the translationally equivalent text'. Lindquist (1989) adopts a similar method; he argues that reading the source language in parallel with the target language is the natural way to analyse and evaluate translations by considering anything notable and then listing any insufficiencies or felicities. Quah (1999) argues that

> Parallel texts are used to make interlingual comparisons between languages at all levels of the texts. The main difference between the two techniques is where they are used. Parallel texts techniques, used in the area of contrastive analysis of languages, were later adapted to compare 'translationally equivalent texts' (Hartmann 1980: 37). On the other hand, the parallel reading proposed by Lindquist shows in detail the relationships between two written languages. This method is useful for assessing the quality of a particular translation and discovering translation difficulties between two languages (Lindquist 1980: 23) as well as recommending ways to deal with such translations.

The analysis involved the following steps:

- The first section focusses on Arabic imperfect aspect, and the second focusses on perfect Arabic aspect.

  The constructions of Arabic aspect are arranged into the following classes:[42]

  - The bare imperfect form
  - The construction *sa-, sawfa* + imperfect
  - The use of subjunctive particle + imperfect
  - The use of conditional particles + imperfect

[42] Most of these constructions are considered as well by Gadalla (2002, 2006) as he provides a model for translation of the perfect and imperfect aspect of modern standard Arabic into English based on the Arabic linguistic context features such as verbs or particles.

- The use of the jussive particles + imperfect
- The use of particles such as:
- The use of *qad* + imperfect
- The use of interrogative particle + imperfect
- The use of auxiliary verbs such as:
- The use of the verbs *mā- zāla* or *kāna* + imperfect
- The use of the verb *kāda* كاد + imperfect aspect
- The use of the verb ʿ*asā* **+** عسى imperfect Aspect
- The use of the verb *ṭafiqa* طفق **+**imperfect aspect
- The use of the verb *aqbala* أقبل+ imperfect aspect
- The use of particles + auxiliary verb, such as:
- *inna* + *mā- zāla* + imperfect
- *qad* + auxiliary verb + imperfect
- The use of the particle mā **+** ما النافية *kāna* كان imperfect aspect
- The use of the verb kāna كان+ the CERT- particle *qad* قد+ imperfect aspect
- The use of time adverbs + imperfect

The constructions of perfect Arabic verbs will then be arranged into the following classes:

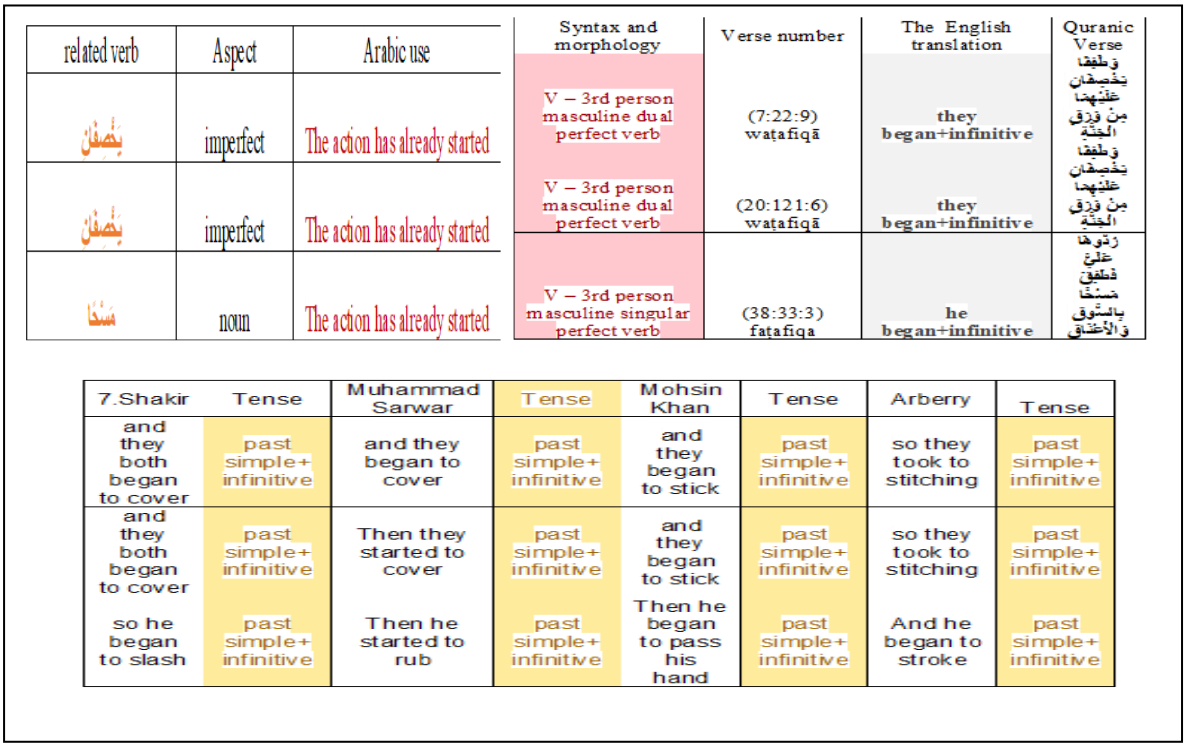
- The bare perfect form
- The use of the particles such as:
- The use of the particle *qad* + perfect
- The use of conditional particles such as *in* + *kāna*, with or without *qad* + perfect
- The use of EQ –همزة التسويه prefixed equalisation particle + perfect aspect
- The use of *inna* with or without *qad* + perfect
- The use of particles+ auxiliary verb such as:
- *sa- ya-kūn* + *qad* + perfect
- The use of the verb *kāna* with *qad* + perfect aspect
- The use of ʿasā **+**عسى the COND-conditional particle in **+** إن perfect aspect[43]
- The use of *lam* + *yakunu/takūnū* + perfect
- The use of the verb 'to be' in the perfect aspect in nominal sentences

[43] There are other verbs used with the perfect aspect that denote the same as *ʿasā.*

- The use of adverbs and prefixed equalisation particle + perfect
- The use of the prefixed conjunction + perfect aspect
- The use of interrogative words + perfect aspect

- The verb functions are classified and discussed using the linguistic features; morpho-syntax features that served as keywords in the corpus contextual analysis.
- In the analysis, each linguistic feature as used in the Qur'anic Arabic corpus is assigned a part-of-speech (POS) tag.

  This additional information will help in a future study using the website of the Qur'anic Arabic corpus tagset (http://corpus.Qurān.com/documentation/tagset.jsp).
- The syntactic and semantic examples are extracted from the Qur'an using the website Qur'anic Arabic corpus 'manager search' word by word (http://corpus.Qur'an.com/wordbyword.jsp).
- In order to analysis the different translations used to translate the Arabic verb aspect and their morpho-syntax features, for each group, at least three examples are examined, including their translations from Sahih International as a primary interpretation of each verse. The samples are sorted in Excel in context, and the relevant verb phrases are arranged separately.



related verb	Aspect	Arabic use	Syntax and morphology	Verse number	The English translation	Quranic Verse
بَصُرْنَ	imperfect	The action has already started	V – 3rd person masculine dual perfect verb	(7:22:9) waṭafiqā	they began+infinitive	وَطَفِقَا يَخْصِفَانِ عَلَيْهِمَا مِن وَرَقِ الْجَنَّةِ وَطَفِقَا يَخْصِفَانِ عَلَيْهِمَا مِن وَرَقِ الْجَنَّةِ
بَصُرْنَ	imperfect	The action has already started	V – 3rd person masculine dual perfect verb	(20:121:6) waṭafiqā	they began+infinitive	
مَسْحًا	noun	The action has already started	V – 3rd person masculine singular perfect verb	(38:33:3) faṭafiqa	he began+infinitive	رُدُّوهَا عَلَيَّ فَطَفِقَ مَسْحًا بِالسُّوقِ وَالْأَعْنَاقِ

7.Shakir	Tense	Muhammad Sarwar	Tense	Mohsin Khan	Tense	Arberry	Tense
and they both began to cover	past simple+ infinitive	and they began to cover	past simple+ infinitive	and they began to stick	past simple+ infinitive	so they took to stitching	past simple+ infinitive
and they both began to cover	past simple+ infinitive	Then they started to cover	past simple+ infinitive	and they began to stick	past simple+ infinitive	so they took to stitching	past simple+ infinitive
so he began to slash	past simple+ infinitive	Then he started to rub	past simple+ infinitive	Then he began to pass his hand	past simple+ infinitive	And he began to stroke	past simple+ infinitive

Figure 4.4 Organization of data in Excel

- For each group, the most used agreed-upon translations of the imperfect and perfect constructions are measured to clarify how Arabic perfect and imperfect verbs with their morpho-syntax features can be rendered into the English aspects and tenses also using the English morpho-syntax features.
- The examples are presented in context through this thesis, and the relevant verb phrases are highlighted under each verse.

4.3. Data Mining with the WEKA

Hamoud and Atwell (2016, p.1) define data mining as the compilation of a dataset corpus created for data mining: 'Data mining is the exploration and analysis of large quantities of data in order to discover valid, novel, useful, and understandable patterns in data. Data mining is sometimes called "knowledge discovery from datasets".' Two main types of data-mining models exist. One can be used to develop a predictive model using data with known results, while the other can be used to describe patterns in existing data (Hamoud and Atwell, 2016). The mining method practises generating new information by the examination of a large number of an existing database. The outcome of information can show whether certain groups are more expected to point to certain attributes or whether there is a connection between two variables.

Overall, the Waikato Environment for Knowledge Analysis (WEKA) regularly works for model classifications and the generation of model predictions. The task of text classification into categories with a smart, super-fast classification process can be achieved through a machine learning–automated classifier using the WEKA environment analysis (ParallelDots@, 2017). A brief definition for the task of text classification in machine learning, as given by Bird et al. (2019), is that selecting the correct class tag 'label' for a particular input is the task of classification, while 'supervised' is the term for the classifier built on the basis of training corpora containing the appropriate label for each input.

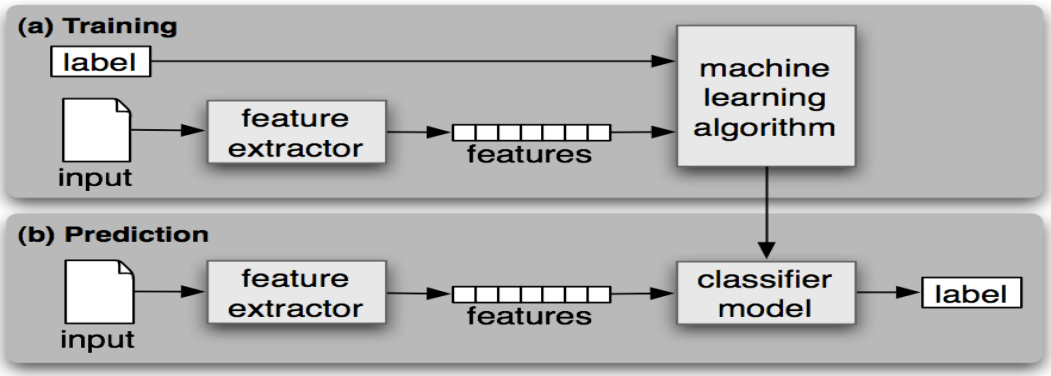


Figure 4.5 ‘Supervised Classification’ (ibid, p.222)

During the training process, supervised classification performs several tasks with the feature set to produce the predicted model. The feature set is then extracted and adopted with each input value. The essential data for every separable input are captured for use in the label classification. Data mining can find patterns and connections, which can then, in turn, be used to build models. All these tasks can be completed using the WEKA,[44] free Java-based software used to resolve data-mining problems through a number of machine-learning algorithms. The WEKA was established at the University of Waikato in New Zealand.

While these task services allow us to categorise data automatically, exploring an automated way to predict and classify Qur’an Arabic aspects and their English translations proved efficient as well, possibly providing future Qur’an translators with a useful guide to Qur’an verb aspect translations.

In this experiment, the WEKA is used to teach the machine-learning program the classifications to generate predictions. The WEKA data-mining method is used in this study to explore and test the WEKA machine learning–automated classifiers for the dataset of Arabic perfect and imperfect aspects and their English tense and aspect translations. Largely, the dataset of candidate linguistic features is employed here to consider their predictive functions in the classification of Qur’an Arabic aspects and their translation.

4.3.1. Related work on the WEKA

A few studies train and test the WEKA machine-learning classifiers on Arabic with the WEKA or other data-mining analysis tools in the classification of Qur’anic verses in Arabic or English translations. Hamoud and Atwell (2016), for example, address ‘the compilation of the Qur’an question and answer collection that were collected from websites, Islamic experts, and existing research datasets’. They build a ‘string to word vector’ filter ‘to process each string into a bag or vector of word frequencies for further analysis with different data [-] mining techniques’. It is a classification of characters or a comparison of characters.

A clustering algorithm is then used to show how each cluster coheres. A clustering algorithm was used to divide the data points into a number of groups. Cluster zero for an

[44] This term is generally used in the literature (e.g., Garner, 1995).

attribute has the value zero, and in cluster one, every attribute has the same value (Table 4.2).

Table 4.2 Example questions and answers in each cluster

Cluster no.	Question	Answer
	Who revealed the Qur'an?	Allah revealed the Qur'an
	On which night was the Qur'an first revealed?	Lailatul Qader
	Through whom was the Qur'an revealed?	Through Angel Jibraeal
	Who took the responsibility of keeping the Qur'an safe?	Allah himself
Cluster 1	What is the Islamic view on abortion?	Islam considers abortion as murder and does not permit it
Cluster 2	How many verses are there in the Qur'an?	6666

In their results, the clustering algorithm shows questions that ask 'how many' with the answers in cluster 2, and the same words from the questions are shown in cluster 3, such as the words 'name', 'prophet' and 'mentioned'. They suggest that these results can be used in further analysis.

Adeleke et al. (2018, p.283) adopted a group-based feature-selection approach for two significant references – the English translation and *tafsīr* (Commentary) – 'for classifying verses in Chapter Two (*Surat al-Baqarah*) and Chapter Six (*Surat al-Anaam*) of the Holy Qur'an into three distinct predefined categories [,] namely: Faith (*Iman*), Worship (*Ibadah*), and Etiquettes (*Akhlak*)'. They achieved a WEKA accuracy of 94.5%. However, those experiments were done by people interested in computational language studies, not in language studies. As far as I know, no study has used WEKA machine-learning classifiers on the Qur'anic Arabic perfect and imperfect aspect and their English tense and aspect translations.

4.3.2. The steps of implementing the WEKA analysis

The method in this analysis required several stages, from data collection and distribution to analysis and conclusion:

4.3.3. Data preparation

The sub-verb corpus, which is extracted from the Qur'anic Arabic corpus, is divided into three datasets:

1. A training data set to build the classifier/predictive model with Arabic Qur'anic verses containing the verbs **قال** *qāla* and **كان** *kāna.*
2. The dataset of the seven translations involved in the sub-Qur'anic Arabic corpus.
3. The dataset of the prefixes, particles, and time adverbs linguistic context used to predict and select the model's features. Appendix C contains the list of prefixes, particles, and time adverbs linguistic context, their examples in Qur'anic verses, their transliterations, their tags and their Sahih International example translations in detail.

4.3.4. Tagging

The software's input assumes the text is POS-tagged[45] using the QAC tagset, and the output is a set of features with their values to be fed into the WEKA toolkit. The linguistic features are tagged using Buckwalter transliteration (see Appendix D).[46]

4.3.5. Data processing

The WEKA algorithm code is written to work for these stages:

1. Copy the training dataset with the data of Qur'an verb verses (see examples in Appendix A).
2. Copy the data to be tested, which contains the data of linguistic context features (see examples in Appendix C).
3. Copy the file with divided verb translations in their corresponding English tenses and aspects (see examples in Appendix A).
4. Apply each feature to the verses stored in their corresponding tenses and aspects in English.
5. The file form 'attribute–relation file form' (ARFF) is created, which is the most popular file format in the WEKA to analyse data (the file can be found in the Electronic Appendix).

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[45] POS tagging adds a POS label to each word that shows its broad grammatical class and morphological type, such tense, gender, number, etc. (see At and Sawhalha, 2008) – in this case, using a standard tagset of traditional morphological features of the Arabic language.

[46] The Buckwalter transliteration uses the same characters of the Arabic letters used in the Java format of the Quranic Arabic corpus.

In the end, the text was classified via WEKA classifiers by the presence of the following attributes:

- Numeric: *Sūrah* number, *ayah* number and word number
- A string, which includes words, and an *ayah* string
- A class, which includes the classification of English tense or aspect, and the Arabic aspect: perfect or imperfect and the imperative mood

```
@attribute class
{present_simple,future_simple,past_simple,present_passive,future_passiv
e,past_perfect,present_continuous,past_passive,future_continuous,meanin
g,presenet_perfect,past_continuous,future_perfect,pluperfect,participle
,perfect,imperfect,imperative}

@attribute description {n, y}
@attribute aspect-perf {n, y}
@attribute aspect-impf {n, y}
@attribute aspect-impv {n, y}
```

For more details on the code above, see the Electronic Appendix.

4.3.6. Loading the corpus into WEKA

The analysis and classification could be conducted using numerous prediction algorithms and classifications available in WEKA (Hall et al., 2009). Since all are similar, applying several feature-selection techniques to the data is an exceptional approach to creating multiple views of the data (Hall et al., 2009). Several different WEKA algorithm classifiers are thus applied to the data. However, of the classifiers offered by WEKA, only trees.J48 is used to show the classification model of the data, as it appeared most suitable for this task. It works as a filter to connect translations and features into a decision tree that classifies the various translations that can be realised based on the features' presence. To use it, the ‘numeric filter’ must be changed to ‘string to word attribute’, as the tree classifier does not work with numeric attributes.

One difficulty was that, while trying to load the file into WEKA, the program could not recognise Arabic text (Figures 4.5 and 4.6).

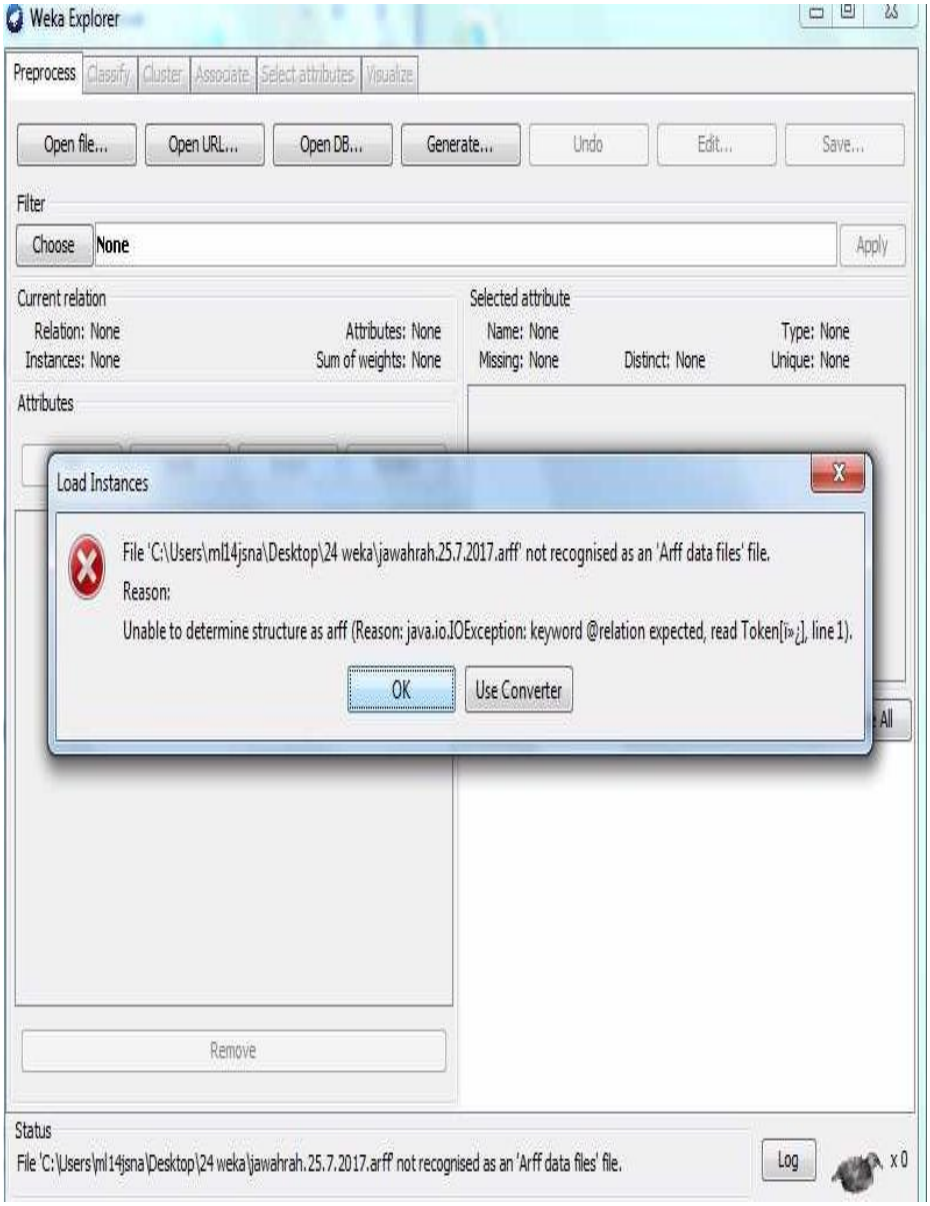


Figure 4.6 First problem when opening a file in WEKA

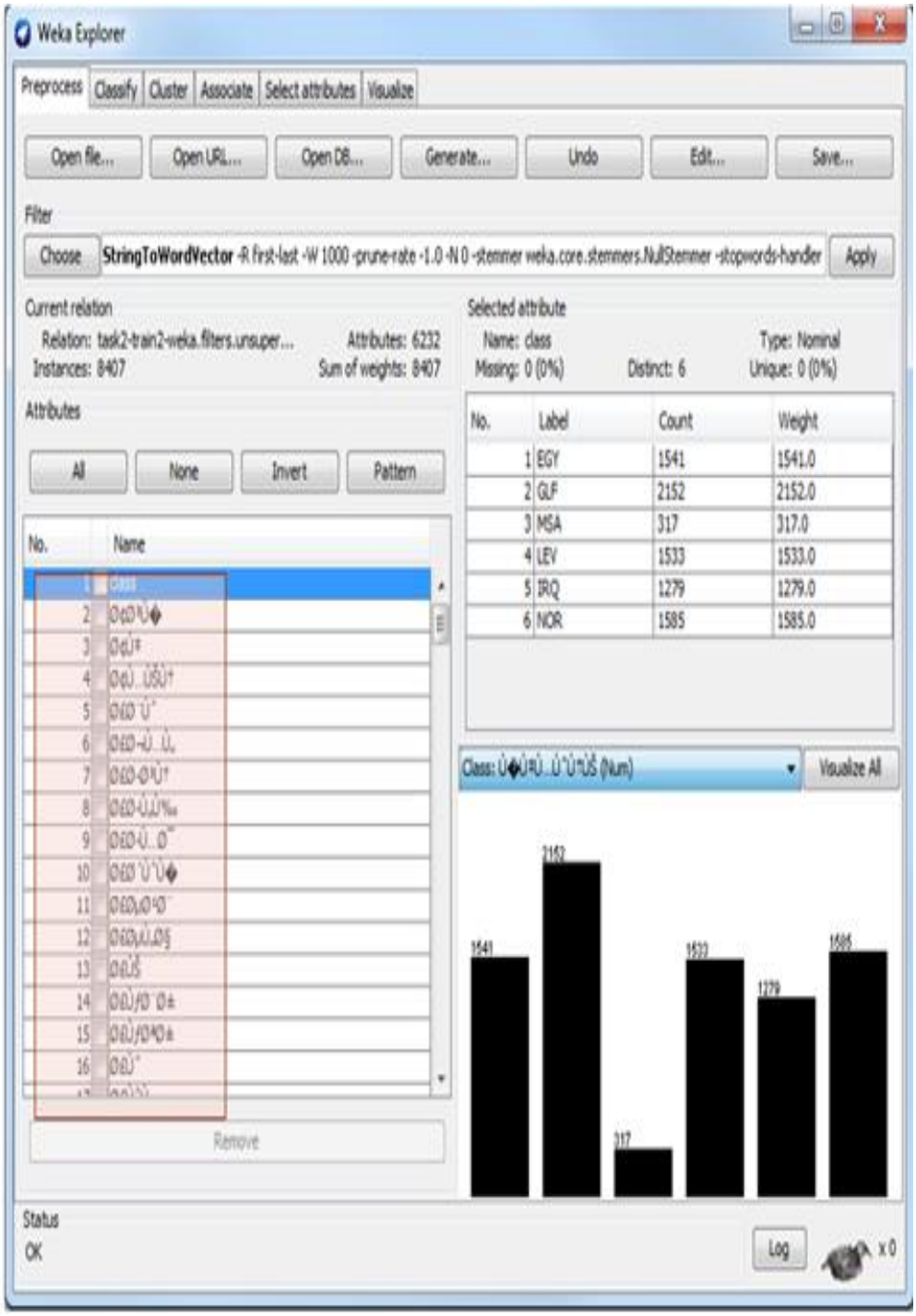


Figure 4.7 Second problem with Arabic texts

To address this problem to allow Arabic text to be submitted to WEKA, the following steps, commonly used to address such issues, were taken: UTF coding, which is the main way to handle Arabic text, and OMIT for the heap memory size.

4.4. Conclusion to this Chapter

This chapter presents the second part of the methodology of this research. To put it differently, it explains the quantitative and qualitative analyses of Classical Arabic verbs in the Qur'an and its translations. Moreover, it demonstrates the usefulness of applying a mixed approach in this corpus-based methodology and provides evidence of the benefit of state-of-art technology to analyse the language of the Qur'an. For example, WEKA helps determine a corresponding model for the data, which may help translators classify or predict the correct Qur'anic Arabic-to-English verb tense and aspect translations, and SPSS represents a promising way to collect, analyse and infer from the data. Choosing appropriate English translations of Qur'anic Arabic verbs using a quantitative approach and statistical methods can supplement qualitative analyses of the data. The following chapter discusses the results of the experiments in this chapter.

Chapter 5 Results and Implications

Introduction

After presenting the methodology of this research, this chapter presents the results of the qualitative analysis in the parallel reading and the quantitative analyses in the two published papers on the use of SPSS and WEKA in the previous chapter. Furthermore, it elaborates on the important implications of these results. The first set of results concerns the comparison between Classical Arabic verbs and their translations in the Qur'an. The second group of results concerns the effect of linguistic context on the automatic classification of Qur'anic verb aspects. Finally, the third set of findings is a list of the strategies used in translating Arabic verbs. All the sets of results are based on the findings in Sections 4.1, 4.2 and 4.3. The importance of this chapter is that it gives a full report of all the results of the experiments in this research; some examples in this chapter are used in the discussion of the research questions in the following chapter. This chapter consists of four sections: three that discuss the results and implications of this research and a fourth that concludes.

5.1. The Comparison Between Classical Arabic Verbs and Their Translations

Based on the results of the SPSS analysis, the following examples highlight the frequency and percentage of the verbs used in the Qur'anic text and the translation agreements for descriptive purposes.

Table 5.1 Frequencies and percentages of the use of the verb قال *qāla* indicating tense, aspect and mood categories in the Qur'anic text

Verb aspects/moods			Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	perfect		949	58.7	58.7	58.7
	imperfect/indicative mood		207	12.8	9.2	67.9
	subjunctive mood		39	2.4	2.4	92.0
	jussive mood		20	1.2	1.2	93.2
	passive voice		49	3.0	3.0	96.2
	imperative		349	21.6	21.6	89.5
	passive perfect		3	.2	.2	96.4
	total	1616	100.0	100.0		

Table 5.1 shows that there are only two verb aspect categories – the perfect aspect, which is marked by suffixes, and the imperfect aspect, which is characterised by both prefixes and suffixes. The aspects and tenses are known in Arabic as **الماضي** *almāḍi*, **المضارع** *almuḍāri*ʿ and **المستقبل** *almustaqbal*. The imperfect aspect has three moods: indicative, jussive and subjective. Both the perfect and imperfect can occur in the active and the passive voice. Inflectional verbal morphology distinguishes between a suffix conjugation and a prefix conjugation in Arabic.

According to Table 5.1, the highest occurrence of the verb قال *qāla*'s conjugations[47] is 949 examples in the perfect tense, that is, 58.7% of the total. Imperfect conjugations in different moods occur in 615 cases, with the imperative having the highest percentage of 21.6% and the passive voice in the perfect and imperfect, accounting for the lowest rates of 3% and 2%, respectively. The results suggest that the interaction of verb categories – mood, imperative, active/passive, perfect and imperfect – can be used in Arabic to indicate the action concerning time. In the English translations, three tenses – past, present and future – with the progressive and perfective aspects are used to translate the perfect Arabic aspect. Table 5.2, for example, shows the percentage of translations of the Qur'anic perfect aspect in terms of tense and aspect.

Table 5.2 Percentages of the interpretations of the Qur'anic perfect aspect of the verb **قال** *qāla*

Qur'anic perfect aspect verb	Sahih International %	Pickthall %	Yusuf Ali %	Shakir %	Muhammad Sarwar %	Mohsin Khan %	Arberry %	Total %
future simple tense	9.3	3.6	8.0	8.7	7.7	8.6	7.1	7.57
future simple passive	0	0	0	0	.1	0	0	0.02
infinitive	0	0	0	0	0	0	0	0
meaning	.1	.1	.8	.1	4.3	.3	0	0.83
noun/participle	.2	2.1	1.3	.4	4.7	.8	2.3	1.70
past continuous	0	0	0	0	0	0	0	0
past passive	0	0	0	0	.2	0	0	0.03
past perfect	1.1	.9	.9	.8	1.6	.9	.8	1.02

[47] Conjugating verbs in terms of the subject, such as person, gender and number.

past perfect continuous	0	0	0	0	0	0	0	0
past simple	74.4	71.3	71.3	73.4	65.6	73.8	73.8	71.96
perfect would-have-been used to	0	.1	.1	.1	0	0	0	0.05
present continuous	0	0	0	0	0	0	0	0
present passive	.1	.1	.1	.1	.1	.1	.1	0.11
present perfect	.9	.5	.3	.2	5.6	.4	.6	1.23
present simple	13.9	21.2	17.1	16.0	10.0	15.0	15.3	15.49
								100.00

The results indicate that the Qur'anic Arabic perfect aspect, which is constructed with suffixes, is translated into multiple tenses or aspects. In the translations, we find 15 tense structures; there are tense categories, such as present, past and future, and each tense has aspectual references, such as simple, progressive, perfect and perfect progressive. In the English translations, the simple past is used in 71.96% of cases and the simple present in 15.49% of cases. The future simple tense is used in 7.57% of cases and indicates the lowest percentage of translating a perfect verb. The verbs are translated in the past perfect in 1.02% of cases, perfect models in 0.05% of cases, and present perfect in 1.23% of cases. Other parts of speech, such as infinitives, nouns and participles, account for only 4.7%.

The statistical analysis shows that the Arabic imperfect aspect of the verb **يقول** *yaqūlu* is translated into English variously as 'say', 'said', 'used to say', 'may say', 'will say', 'says', 'has been saying', 'shall say', etc. Tables 5.3 and 5.4 illustrate the different translations of the verb **يَقُولُ** *yaqūlu* 'he says', which indicates the third-person masculine singular/plural imperfect verb.

Across two translations, the same expression is, for instance, translated into 'say' and 'says'. The simple past tense is also used to translate the imperfect aspect in the Sahih International translation in one example, while it is used in the Yusuf Ali translation in four examples. Tables 5.3 and 5.4 show two examples of the different translations used to translate the Arabic imperfect aspect.

Table 5.3 The Sahih International translation of the imperfect aspect **يقول** *yaqūlu* 'to say.'

Per cent	Frequency	60 Examples	Sahih International
1.69%	1	it is said	Valid
1.69%	1	has been saying	
1.69%	1	mentions	
1.69%	4	said	
8.47%	11	say	
30.51%	17	says	
13.56%	22	will say	
1.69%	2	would say	

Table 5.4 Yusuf Ali translation of the imperfect aspect **يقول** *yaqūlu* 'to say.'

Per cent	Frequency	60 Examples	Yusuf Ali
1.69%	1	could only say	Valid
1.69%	1	may say	
1.69%	1	shall say	
1.69%	1	said	
8.47%	5	saith	
30.51%	18	say	
13.56%	8	says	
1.69%	1	talks	
1.69%	1	tells	
3.39%	2	used to say	

The tables highlight differences between the two translations of the verb **يَقُول** *yaqūlu* 'he says'. A problem that arises in translations from Qur'anic Arabic into English is the use of pronouns. The textual analysis shows a disagreement between translators when translating Qur'anic verbs on the basis of the prefixes and affixes added to the verb forms in terms of subjects or pronoun numbers (plural and singular). The tables show that the third-person singular present is used in 18 examples in the Yusuf Ali translation, while it is used in only 10 of the examples from the Sahih International translation. The plural speaker verb 'say' is used in 11 examples by Sahih International, while Yusuf Ali uses it in 18 examples.

In terms of the results of the analysis with SPSS, Tables 5.5 and 5.6 show the different results between Kappa and the percentage-agreement calculations.

Table 5.5 The percentage calculation of agreement between translations

	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Muhsin Khan	Arberry
Sahih Internatio	100						
Pickthall	76.88442	100					
Yusuf Ali	71.8593	71.8593	100				
Shakir	79.8995	75.8794	79.39698	100			
Muhammad Sarwar	61.80905	63.31658	64.82412	67.8392	100		
Muhsin Khan	73.36683	76.88442	82.91457	79.8995	71.8593	100	
Arberry	77.38693	71.35678	70.35176	75.8794	62.31156	73.86935	100

Table 5.6 Calculation of kappa

	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
Sahih International	1						
Pickthall	0.62	1					
Yusuf Ali	0.55	0.53	1				
Shakir	0.68	0.67	0.66	1			
Muhammad Sarwar	0.41	0.41	0.45	0.49	1		
Mohsin Khan	0.58	0.62	0.73	0.68	0.57	1	
Arberry	0.65	0.54	0.53	0.62	0.42	0.59	1

Subjects = 199
Raters = 7
Kappa = 0.566[48]

[48] Laerd Stastics (2019) confirms that 'using the classification scale, since Fiss's kappa (k)=557, . . . represents a moderate strength of agreement'.

As a data corpus of the seven translations is used to compile the results shown above, a moderate agreement between the translations can be noted based on the 'visualised' interpretation of Kappa provided by Viera et al. (2005) (see chapter 4, section 4.1). The Sahih International and some other translations exhibit moderate agreement, and the Sahih International and Shakir translations exhibit substantial agreement with the highest value, 0.68. The lowest amount of cooperation between the Sahih International and the other translations, 0.41, is found with the Muhammad Sarwar translation, which yields moderate agreement. Overall, the results show an apparent variance between translations, while the agreement varies between moderate and substantial. However, Viera et al. (2005) argue that no one can agree whether 0.57, for example, indicates 'good' agreement. The detailed results of Kappa used to measure the agreements between the translations show a clear difference in the Qur'an verb tense and aspect in English translations.

5.2. Linguistic Context and the Automatic Classification of the Qur'anic Verb Aspect into English Tense and Aspect

The upcoming results show the WEKA for machine-learning classification and prediction generation. The WEKA data-mining method is used in this study to explore and test WEKA machine learning–automated classifiers for the dataset of Arabic perfect and imperfect aspects and their English tense and aspect translations. To a large extent, the dataset of candidate linguistic contexts is employed in this experiment to consider their predictive function in the classification of Qur'an Arabic aspects and their corresponding English tenses and aspects.

This study uses the WEKA to classify and predict the most appropriate verb tenses from several respected English translations of the Qur'an automatically through machine learning (data mining) for use in Qur'anic Arabic–English translation. The data are run via the classifier class WEKA.classifiers. trees. J48 for 2927 instances and 117 attributes. The classifier model (full training set) shows the size of the tree that contains 215 leaves of English tenses, Arabic aspects and linguistic contexts. Bird et al. (2019) argue that the result of classifier-tree machine learning allows extracting evidence and statistical details about the most informative features and the relations between features. They also argue that a tree decision may be used to build a model to predict new data without considering the details

of the relationships between features and models. They state that most descriptive models are mainly automatic models constructed from corpora and that they can provide the details regarding which features are significant in terms of any given production or pattern. However, they do not explain what the related view between the patterns and the features actually is. The following information from the tree classifier model shows part of this tree (the full layout of the results of the tree size can be found in the Electronic Appendix).

Table 5.7 Classifier model (j48 tree) decision tree predicting English tenses and Arabic aspects

=== Run information ===

```
            Scheme:       weka.classifiers.trees.J48 -C 0.25 -M 2
                          Relation:     LCCvsLCSH-
weka.filters.unsupervised.attribute.StringToWordVector-R4, 5-W1000-prune-rate-
              1.0-N0-stemmerweka.core.stemmers.NullStemmer-M1-
tokenizerweka.core.tokenizers.WordTokenizer -delimiters " \r\n\t, ;:\'\"()?!"-
             weka.filters.unsupervised.attribute.Remove-R120-1183
                               Instances:    2927
         Attributes:   117              [list of attributes omitted]
                     Test mode:    10-fold cross-validation
                  === Classifier model (full training set) ===
                               J48 pruned tree
                               ------------------
                                Aspect-IMPV = N
                                |   wordid <= 1
                              |   |   aspect-PERF = N
                             |   |   |   b2-s-FUT = N
          |   |   |   |   sorahid <= 68: present_simple (21.0/4.0)
               |   |   |   |   sorahid > 68: future (6.0/1.0)
                 |   |   |   b2-s-FUT = Y: future (7.0/1.0)
                              |   |   aspect-PERF = Y
                             |   |   |   sorahid <= 29
                           |   |   |   |   sorahid <= 6
                         |   |   |   |   |   sorahid <= 5
                       |   |   |   |   |   |   ayahid <= 76
         |   |   |   |   |   |   |   sorahid <= 2: past_simple (9.0)
                     |   |   |   |   |   |   sorahid > 2
                               |   |   |   |   |   |   |
                                Number of Leaves:  413
                                Size of the tree:  825
                     Time taken to build model: 0.5 seconds
                       === Stratified cross-validation ===
                                  === Summary ===
      Correctly Classified Instances        1578               53.9119 %
      Incorrectly Classified Instances      1349               46.0881 %
                Kappa statistic                          0.4281
                Mean absolute error                      0.0617
                 Root mean squared error                 0.205
               Relative absolute error                64.1869 %
               Root relative squared error            93.5161 %
                Coverage of cases (0.95 level)        73.3516 %
               Mean rel. region size (0.95 level)     15.6434 %
                  Total Number of Instances             2927
```

The Classifier model (j48 tree) decision tree predicting English tenses and Arabic aspects results show that 1,578 instances were correctly classified at 53%, and 1,349 instances were incorrectly classified at 46%.

TP Rate FP Rate Precision Recall F-Measure MCC ROC Area PRC Area Class[49]

Table 5.8 Detailed accuracy by class

0.696	0.095	0.685	0.696	0.690	0.598	0.821	0.650	present simple
0.380	0.042	0.411	0.380	0.395	0.351	0.719	0.269	future
0.765	0.129	0.654	0.765	0.705	0.605	0.858	0.647	past simple
0.000	0.002	0.000	0.000	0.000	-0.003	0.612	0.018	noun
0.095	0.011	0.162	0.095	0.120	0.110	0.611	0.059	past-perfect
0.000	0.001	0.000	0.000	0.000	-0.002	0.698	0.046	present passive
0.000	0.002	0.000	0.000	0.000	-0.003	0.596	0.013	future passive
0.000	0.000	0.000	0.000	0.000	0.000	0.495	0.001	past perfect continuous
0.000	0.000	0.000	0.000	0.000	0.000	0.599	0.007	past passive
0.000	0.001	0.000	0.000	0.000	-0.001	0.485	0.003	past perfect
0.000	0.000	0.000	0.000	0.000	0.000	0.498	0.000	present continuous
0.081	0.029	0.120	0.081	0.096	0.063	0.551	0.072	meaning
0.000	0.000	0.000	0.000	0.000	-0.000	0.465	0.001	present perfect
0.382	0.111	0.381	0.382	0.382	0.271	0.708	0.302	past _simple
0.504	0.136	0.488	0.504	0.496	0.364	0.730	0.410	present _simple
0.167	0.004	0.235	0.167	0.195	0.192	0.611	0.067	pluperfect
0.000	0.001	0.000	0.000	0.000	-0.001	0.499	0.001	participle
Weighted Avg.		0.539	0.102	0.513	0.539	0.524	0.430	0.763 0.459

The results of the classifier class WEKA. Classifiers. trees. J48 sometimes indicates good accuracy and performance with a depth of detail regarding English corresponding tenses and aspects of the Arabic imperfect aspect with some features. For example, the results reveal that the Arabic imperfect aspect is classified into simple English present and future tenses depending on the absence and/or presence of certain features. The presence of

[49] Past = past_ simple and present = present _simple

specific features leads to a decrease in classification accuracy. The following results are used only with the data of the imperfect aspect (60 instances).

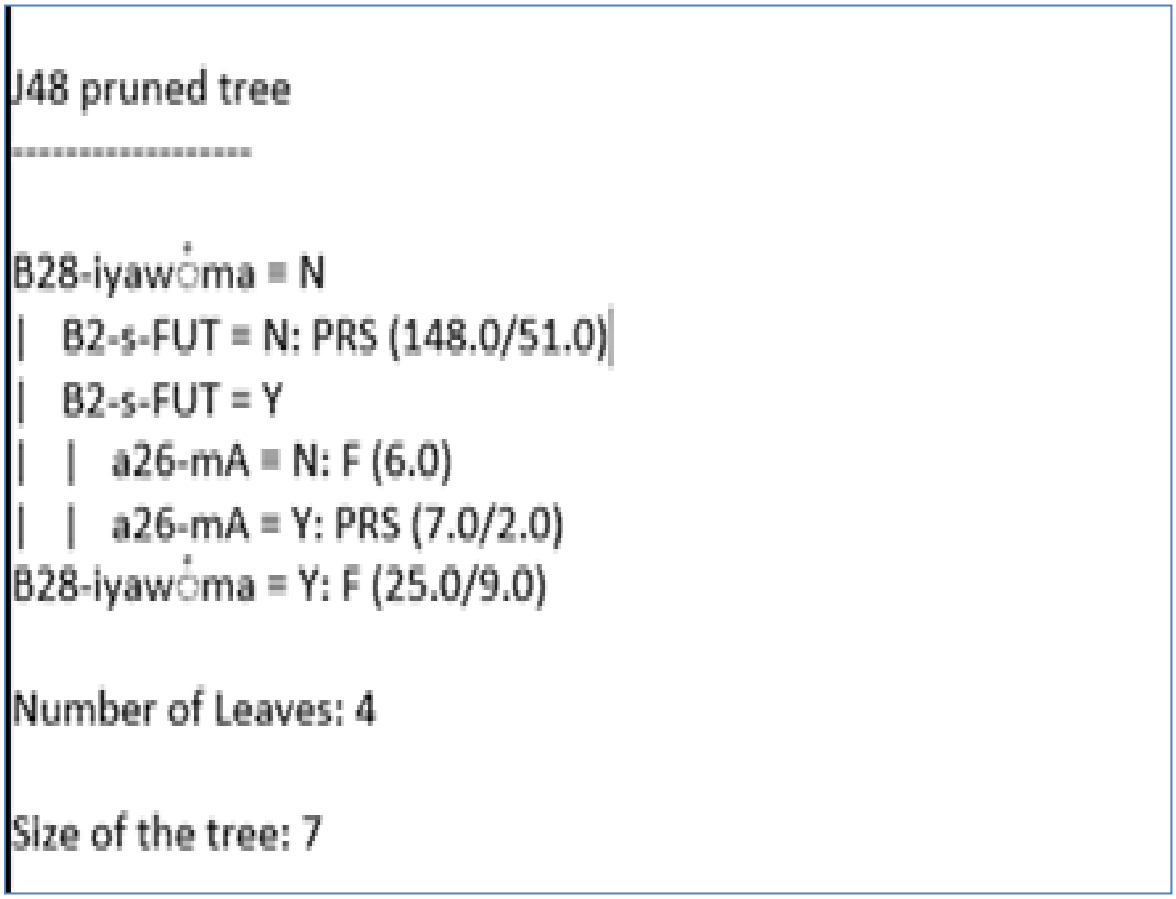


Figure 5.1 WEKA j48 decision tree predicting simple present versus future tense in English translations based on linguistic features

The feature-based approach is the main task of the J48 tree classifier, which shows that the linguistic features are linked to each other in terms of the classification of English tenses and the Arabic aspects. The absence of one feature and the presence of another is classified using the decision ‘no’ or ‘yes’ with their related tenses, and aspects are written in code order. The ‘classifier j48’ models of linguistic features are linked to each other. However, sometimes the classifier tree may predict the value ‘no’ for the English tense and aspect when another feature is not considered, which is the main negative of this approach. Consider the classifier tree of the features using a ‘visualisation tree’ in Figure 5.7. In this case, existing examples need to be examined to check the result of the model's outcome.

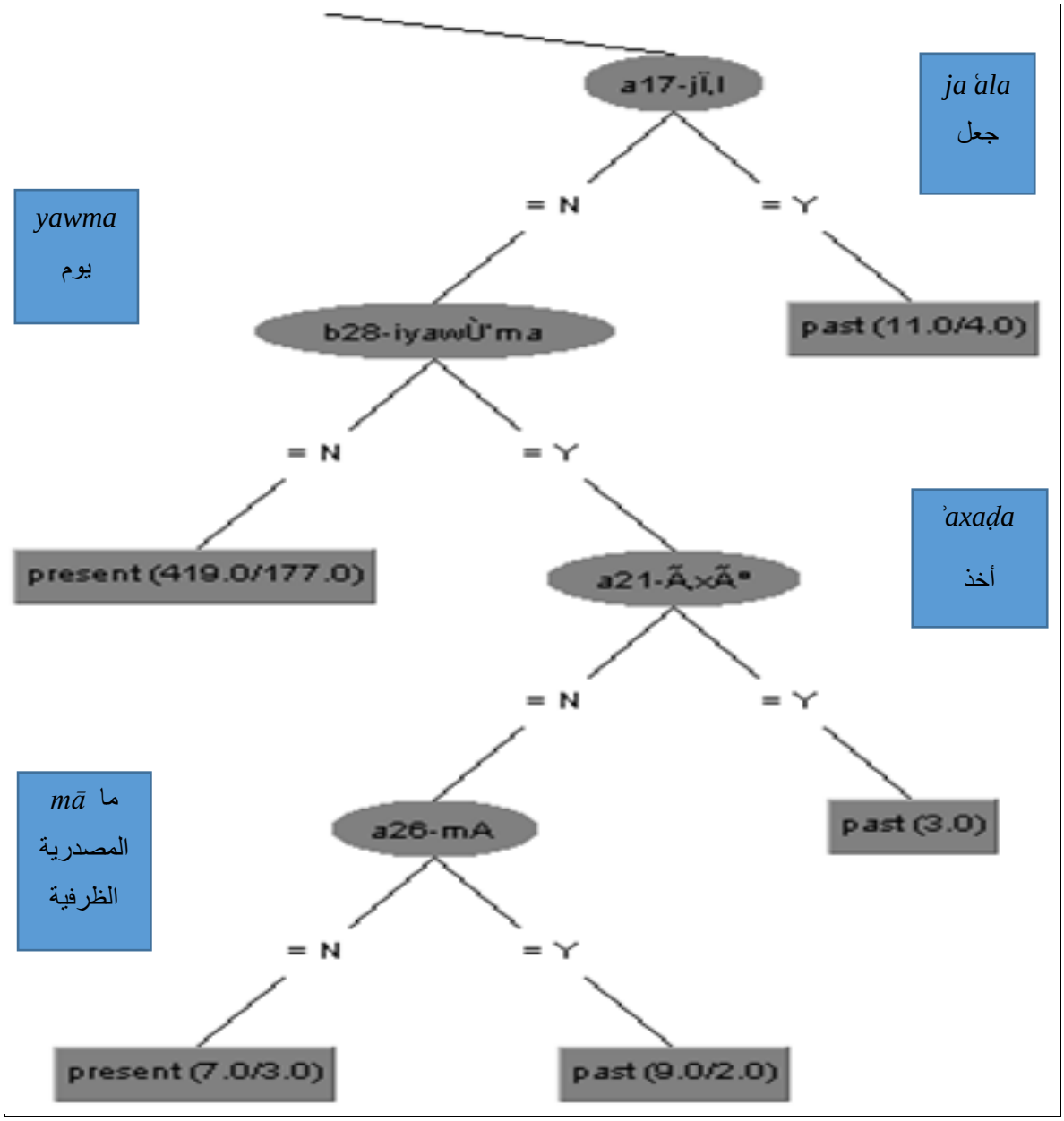


Figure 5.2 The ‘classifier j48’ model of linguistic features linked to each other based on the presence-and-absence approach

Regarding the results of the tree classifiers of the WEKA machine-learning classifiers using the tree–random forest classifier, WEKA findings of the confusion-matrix show that the predictive models of the tree classifier are the following:

Table 5.9 The WEKA findings of the confusion matrix

```
                    === Confusion Matrix ===
  a   b   c   d   e   f   g   h   i   j   k   l   m   n   o   p   q   <-- classified as
499  54 135   4   9   1   2   0   0   1   0  27   0 197 180   6   0 |  a = present simple
 36  79  33   0   1   0   0   0   0   0   0   9   0  25  25   0   0 |  b = future
110  38 598   1  15   1   3   0   0   0   0  37   1 151 346   4   0 |  c = past simple
  3   3   4   0   0   0   0   0   0   0   0   1   0   0   4   0   0 | d = noun
  5   5   8   0   6   0   0   0   0   1   0   4   0  21  11   1   1 |  e = perfect
  0   1  10   0   0   0   0   0   0   0   0   2   0   3   3   0   0 |  f = present passive
  0   1   5   0   0   0   0   0   0   0   0   1   0   1   4   0   0 |  g = future passive
  0   0   2   0   0   0   0   0   0   0   0   0   0   0   0   0   0 |  h = past perfect continuous
  0   1   8   0   0   0   0   0   0   0   0   0   0   0   4   1   0 |  i = past passive
  1   0   0   0   1   0   0   0   0   0   0   0   0   4   2   1   0 |  j = past perfect
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   1   0   0 |  k = present continuous
 23   9  22   0   3   0   0   0   0   0   0  11   0  35  32   0   1 |  l = meaning
  0   0   1   0   0   0   0   0   0   0   0   0   0   1   0   0   0 |  m = present perfect
  1   1   0   1   2   0   0   0   0   0   0   0   0   8   7   4   0 |  p = pluperfect
  2   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0 |  q = Participle
```

The confusion-matrix results of the tree-random forest classifier for the tense/aspect English translation classes show the correctly classified instances, for example, contain 499 instances of the present simple 598 instances of the past simple 79 instances of the future, 4 instances of the pluperfect, and 0 instances of the present passive. The decision model cannot always deliver the correct English tense and aspect classifications for the Arabic verb aspect based on the features. For comparison, Alshutayri et al. (2016) found that ‘It is impossible in principle for WEKA to classify all instances correctly. There is a proportion of texts that cannot be classified, and this sets a ceiling on accuracy that it is possible to achieve approximately to 90–91%’.

Incorrect results could be due to the specific features of the Qur’anic text, the impact of the Qur’anic text’s relationship between verses, or a particular property of the Qur’anic text whereby the verse alone may not indicate verb tense, as the Qur’anic verses are linked to each other in meaning. This result is consistent with the findings of Alshutayri et al. (2016), who found an example of misclassified utterances and confirm that ‘The Arabic linguistic experts [who] analysed the shortcomings in the misclassified utterances from the training data confirm that numerous texts are too short [to say] anything about their dialect origins [;] for example, $Ark is a short[,] one-word text which appears unchanged labelled as different dialects.’ (More experiments using WEKA can be found in Appendix F.)

5.3. The strategies of Translating Classical Arabic Verbs

It is hard to identify challenges based on translation output alone. As machine translation research has revealed, there are complex shifts in syntax, agreement, anaphora, etc., such as the ones exemplified in this thesis, that humans can process far more easily than machines. Furthermore, the systemic differences between two languages may result in greater machine translation challenges than in human translation. This issue is particularly the case in sensitive contexts such as Qur'anic translation. Version of verbs may have widely diverse functions. In addition, translation norms (rather than rules) may be concerned with not only linguistic equivalence but also the highly complex nature of the religious beliefs being communicated. Based on the results of this research on machine and human translation, the following are the five main strategies to be considered by translators of Classical Arabic:

1. Study the incompatibility of subjects and verbs in certain contexts.
2. Conduct detailed contextual analysis when choosing between aspects in translating.
3. Consider the use of linguistic context that may have the same denotative meanings and contextual functions (e.g., the use of *sa-* or *sawfa*).
4. Consider the differences in verb systems and tense/aspect structures.
5. Study the variance of the Qur'anic semantic context and grammatical rules, which may vary for the **البلاغة** rhetorical purpose (see Chapter 6, Section 6.2.) and on occasions of revelation, and study the multiplicity of **القراءات القرآنية** *Qirā'āt* (see Chapter 6, Section 6.4.5.).

5.4. Conclusion to this Chapter

This chapter presents the results of the quantitative and qualitative analyses in this research. They are summarised into three major findings: the results of the comparative study of the Qur'anic verbs with English verbs based on the Qur'an and its translations; the effect of linguistic context on the automatic classification of Qur'anic Arabic verb aspects into English tense and aspect; and, finally, the strategies of translating Arabic verbs into English, particularly Qur'anic Arabic verbs. These results are evidence of a major benefit of the corpus-based methodology in this research. They reveal that statistical methods represent a promising way to collect, analyse and infer from data. In this regard, choosing

appropriate English translations of Qur'anic Arabic verbs using a quantitative approach can then supplement qualitative analyses of the data.

Chapter 6 Discussion of the Results

Introduction

This chapter discusses the results in light of the research questions, which are repeated below:

1. To what extent do morpho-syntactic features influence the indication of the tense and aspect of a specific Qur'anic Arabic verb? Which features of Qur'anic Arabic verbs and linguistic contexts indicate these verb categories?

2. What are the similarities and differences between Arabic and English verbs in terms of tense and aspect?

3. After identifying the Arabic verbal system features, which strategies could be considered both for human translation and machine translation when translating verbs from Arabic into English?

In response to the first question, the results identify the morpho-syntactic features and linguistic contexts of Qur'anic Arabic verb tense and aspect and provide evidence for their impact on their indication. In response to the second question, the findings of the comparison provide evidence of similarities and differences between Arabic and English tense and aspect. Finally, in response to the third question, this chapter discusses the possible translation strategies for both human translation and machine translation when translating Arabic verbs into English. Following the discussion of the research questions in this chapter, a summary will be provided.

6.1. Research Question 1

Based on the study of morpho-syntactic features in this research, action concerning time is expressed in various ways in the Qur'anic context according to semantic context, the nature of the Qur'anic stories and the linguistic context. In Arabic, this is called the contextual and grammatical tense الزمن النحوي و السياقي. A range of morpho-syntactic categories and semantic properties are used in Arabic related to the verb system. The meaning and use of verb phrases can be assumed by both the syntactic performance and the morphological makeup (Reishaan and Jaʿfar, 2008). It is vital to understand the morphemic composition and verb aspect functions in their syntactic contexts, which would be a useful method to

understand how verbs adapt to contextual meaning and linguistic features to denote number, person and gender as well as tense and aspect, and how this would be translated into English. The related contextual meaning with each linguistic context influences the Arabic verb aspect and its function in the demonstration of time and event. Linguistic contexts, such as auxiliary verbs, time adverbs, and conditional particles, are the contextual linguistic features that combine the verb aspect to indicate different tenses and classes, such as habitual, generic, and progressive as English does. Also, an issue discussed in the examples translated using Google Translate (See Appendix E) is that Arabic differs from English in its use of pronouns to denote number, person and gender; these occur in Arabic through verbs by which pronouns are added at either the beginnings or ends of verbs.

Table 6.1 shows examples of the imperfect and perfect aspects with some linguistic context features that may affect their function to indicate their completed or ongoing action in time and English tense and aspect translation. It also shows examples of Qur'anic verses, feature linguistic transliteration, feature tags and the 'Sahih International' translation (more linguistic features and examples can be found in Appendix C).

Table 6.1 Arabic linguistic context features which may influence Arabic verb aspect and their translation to English

Meaning, syntactic function and examples	Arabic	Feature
1- Time adverbs		
These are all adverbs of time. Some can be placed at the beginning of the clause, others at the end. They are followed by perfect or imperfect verbs. They are used to locate an action in a specific point of time. Some of theses adverbs express that an action has already happened and that it is very close to the moment of speaking, for example **الْآنَ** *al-ān*. The present perfect tense, used with adverbs such as 'wherever', 'whether', 'just now, etc., is used the most in the example translations. The time adverb **قبل** *qablu*, another example, is used with a main verb, auxiliary verb, particle, etc., to indicate an action that happened for a long time. The words 'before', 'from the old' and 'aforetime' are used to translate the adverb **قبل** *qabl*. The simple past tense and the perfect	**يَوْم** **قَبْلَ** **كُلَّمَا** **الْآنَ** **بُكْرَةً**	*yawma* *qabla* *kullama* *al-ān* *bukratan*

past tense using the adverb 'aforetime' are the most used in the translations into English. Examples: **قَالُوا الْآنَ جِئْتَ بِالْحَقِّ فَذَبَحُوهَا وَمَا كَادُوا يَفْعَلُونَ** They said, 'Now you have come with the truth.' So, they slaughtered her, but they could hardly do it. **فَلِمَ تَقْتُلُونَ أَنْبِيَاءَ اللَّهِ مِنْ قَبْلُ** Then why did you kill the prophets of Allah before, if you are [indeed] believers?"		
2- ACC- The particle *inna* and its sisters (**إنّ واخواتها**)		
These particles are known as accusative particles. The nominal sentence that comprises the roles of subject *mubtada* and predicate *khabar* (**مبتدأ وخبر**, a predicate of a subject) is placed after these particles, while the predicate *khabar* could be a verbal phrase and a verb *fiʿil* (**فعل**) which could be perfect or imperfect. The construction of **إنّ** *inna* ,for example, is used to indicate that an action is undoubtedly happening, or that it has indeed happened. The present perfect tense, with the adverb 'indeed', is used the most in the example translations. Examples: **إِنَّا جَعَلْنَاهُ قُرْآنًا عَرَبِيًّا لَعَلَّكُمْ تَعْقِلُونَ** Indeed, we have made it an Arabic Qur'an that you might understand. The following verse tells that, while the Prophet Muhammad was having a nap, Allah told him that he has given him a river in the heaven. **إِنَّا أَعْطَيْنَاكَ الْكَوْثَرَ** Indeed, we have granted you, [O Muhammad], al-Kawthar. The following verse tells about Allah's assertion that Islam is the truth and that the Prophet Muhammad was sent it with it.	**إنَّ**	

إِنَّا أَرْسَلْنَاكَ بِالْحَقِّ بَشِيرًا وَنَذِيرًا indeed, We have sent you, [O Muhammad], with the truth as a bringer of good tidings and a warner		
3- V- The verb *kāda,* and his sisters (**كاد واخواتها**) **أفعال المقاربة والشروع والرجاء**		
An associated group of verbs which is known as *kāda* and her sisters (كاد واخواتها). They indicate the meaning of 'hope', 'to be near', 'to nearly do' and 'to almost do'. They are used as adverbs, so they are always attached to imperfect verbs. The use of the verb *kāda* and 'her sisters', in conjunction with the context, indicating an action that almost occurred in the past has been confirmed by Arab grammarians such as Sībawayh (1966). Examples: The use of the verb *kāda* **كاد** + the imperfect aspect In the following verse, Allah says that he has returned to the Prophet and his helpers who followed him even after they doubted the religion because of the hardships they faced in their travel and even after they had almost deviated from the truth. **مِنْ بَعْدِ مَا كَادَ يَزِيغُ قُلُوبُ فَرِيقٍ مِنْهُمْ** After the hearts of a party of them had almost inclined [to doubt]. The following verse states that the Jews were trying to drive the Prophet Muhammad from the land but failed. **وَإِنْ كَادُوا لَيَسْتَفِزُّونَكَ مِنَ الْأَرْضِ لِيُخْرِجُوكَ مِنْهَا** And indeed, they were about to drive you from the land to evict you therefrom. The use of the verb *kāda* **كاد** + the particle *qad* **قد** + the imperfect aspect: Example: **وَلَوْلَا أَنْ ثَبَّتْنَاكَ لَقَدْ كِدْتَ تَرْكَنُ إِلَيْهِمْ** And if We had not strengthened you, you would have almost inclined to them a little.	**كاد** **طفق** **أقبل**	*kāda* *ṭafaqa* *'aqabala*

The use of the verb *ṭafiqa* **طفق** + the imperfect aspect[50]

Examples:

The story behind the following verse how Adam and Eve became aware of their private parts after eating the fruit from the tree that Allah forbade them to eat. They covered themselves using the leaves of trees. Here, there was a direct reaction, which continued after the event that preceded it.

وطَفِقَا يَخْصِفَانِ عَلَيْهِمَا مِنْ وَرَقِ الْجَنَّةِ

And they began to fasten together over themselves from the leaves of Paradise.

In the story of the horses that Allah gave it to the Prophet *Sulaimān* and he loved them, but the horses distracted Prophet *Sulaimān* from the remembrance of Allah, so Allah hidden them, but when the horses returned to him, he stared kissing and touching them:

رُدُّوهَا عَلَيَّ فَطَفِقَ مَسْحًا بِالسُّوقِ وَالْأَعْنَاقِ

[He said], "Return them to me," and set about striking [their] legs and necks.[51]

The following verse describes what the people in heaven will do on the Day of Judgment:

وَأَقْبَلَ بَعْضٍ عَلَىٰ بَعْضُهُمْ يَتَسَاءَلُونَ

And they will approach one another blaming each other.

4- V- The verb *kāna* and his sisters (**كان واخواتها**) [52]

[50] It is noticeable that the story style in the Qur'an distinguishes the Qur'anic context from others. The Qur'anic story style is the description style used to denote the representation of sequential or repeated events using commas or auxiliary verbs that add functional or grammatical meaning, and which may be an indication that the event is approaching or that the actor has already started the event or wishes the action to take place. The Qur'anic story style may be used for a rhetorical purpose with the aim of influencing the listeners. The Qur'anic story style motivates the listeners to follow the development of events and what involved specific details related to the progression of the event.

[51] The example here, which contains the verb *ṭafiqa* طفق, is used with the noun *masḥan* مسحا. The imperfect aspect *yamsaḥu* يمسح is used by some Qur'anic interpreters and grammarians to interpret the noun *masḥan* مسحا.

[52] In Arabic, the verb كان *kāna* is one of the verbs that are called in Arabic أفعال الكينونة العامة. Other verbs can be classified under this term and they have the same effect of the verb *kāna* such as وجد *wajada*, حصل *ḥasaala,* حدث *ḥadaṯa,* استقر *istaqarra.*

When the verbs **كان واخواتها** *kāna wa akhawatuha* are used with a nominal sentence, it helps to limit the noun within a particular time, and if it joins verb sentence, it helps to indicate time details and to clarify the relationship between each event. If they are followed by the verb aspect, they act as auxiliary verbs. The verb *kāna* **كان**+ the imperfect aspect, for example, is used to indicate habitual, repeated or reiterated actions in the past. Examples: **وَلَهُمْ عَذَابٌ أَلِيمٌ بِمَا كَانُوا يَكْذِبُونَ** And for them is a painful punishment because they [habitually] used to lie. The use of the verb *kāna* with *qad* + the imperfect aspect In the following verse, Allah affirmed that the Qur'an was revealed to His people, but they would not listen to it. Therefore, they will receive punishment. قَدْ كَانَتْ ءَايَٰتِى تُتْلَىٰ عَلَيْكُمْ فَكُنتُمْ عَلَىٰٓ أَعْقَٰبِكُمْ تَنكِصُونَ ﴿٦٦﴾ **قَدْ كَانَتْ آيَاتِي تُتْلَىٰ عَلَيْكُمْ** My verses had already been recited to you, but you were turning back on your heels The use of the verb *kāna* with *qad* + the perfect aspect The following verse tells about the story of the people who failed to attend the Battle of Badr and who then promised to the Prophet Muhammad that they would not fail to fight again as they had done before. وَلَقَدْ كَانُوا۟ عَٰهَدُوا۟ ٱللَّهَ مِن قَبْلُ لَا يُوَلُّونَ ٱلْأَدْبَٰرَ ۚ وَكَانَ عَهْدُ ٱللَّهِ مَسْـُٔولًا ﴿١٥﴾ **وَلَقَدْ كَانُوا عَاهَدُوا**	**كانَ** **أصْبَحَ**	*kāna* *'aṣbaḥa*

And they had already promised Allah before not to turn their backs and flee. And ever is the promise to Allah [that about which one will be] questioned. The verb **أصبح** *aṣbaḥa* + the imperfect aspect The verb ***أصبح****aṣbaḥa* + the imperfect aspect is used to denote that the actions happened in the morning or to indicate 'to become'. The past + infinitive and the past + gerund are the most appropriate translations used to translate the imperfect aspect, as in: Examples: The following verse talks about a man who disbelieved in the grace of Allah and became distressed in the morning. **فَأَصْبَحَ يُقَلِّبُ كَفَّيْهِ وَأُحِيطَ بِثَمَرِهِ** And his fruits were encompassed [by ruin], so he began to turn his hands. In the following verse, those who wished the riches of Qur'an became grateful for the power and mercy of Allah in the morning after the punishment of Allah has descended upon him. **وَأَصْبَحَ الَّذِينَ تَمَنَّوْا مَكَانَهُ بِالْأَمْسِ يَقُولُونَ** And those who had wished for his position the previous day began to say, "Oh, how Allah extends provision to whom He wills of His servants and restricts it! If not that Allah had conferred favor on us, He would have caused it to swallow us. Oh, how the disbelievers do not succeed!"		
5- V- Remained and existed verbs **أفعال الديمومة والاستمرارية**		
They are followed by imperfect verbs. They all indicate the meaning of 'to continue', 'to endure', 'to persist' and 'to remain'. Examples:	**لا تَزَالُ**[53] **مادامَ**	*lā-tazālu* *mā-dāma*

[53]The negation particle here is used not to negate the action but to prove it, and to indicate the sense of continuity. So, when we deny the negation verb *zāla*, we, in this case, prove that the action is happening (Ibn Al-ʿAnbārī, 2002).

وَأَوْصَانِي بِالصَّلَاةِ وَالزَّكَاةِ مَا دُمْتُ حَيًّا [54] And has enjoined upon me prayer and zakah as long as I remain alive. The verb *lā-yazālu* لايزال +the imperfect aspect: In the following verse, Allah tells the Prophet Muhammed that the disbelievers in his group are still dishonest and unfaithful to him and his friends even with a covenant between them. وَلَا تَزَالُ تَطَّلِعُ عَلَىٰ خَائِنَةٍ مِنْهُمْ And you will still observe deceit among them. The verbs *zalla* + the imperfect aspect The context of the following verse, the Prophet Muhammed asked Allah what to answer to those who said, "O Muhammad if you are saying the truth why did you not bring to us the angels?" Allah's response to them was, "Even if we opened a door to the sky for the angels, the angels would continue limping and they would see them and they would also not believe." فَظَلُّوا فِيهِ يَعْرُجُونَ And [even] if We opened to them a gate from the heaven and they continued therein to ascend,	ظل	*zalla*
6- COND- Conditional expression particles (شرط)		
They place a verb in the jussive mood. Imperfect or perfect verbs follow them. They are usually used to denote action in future time. However, the precise use of the verb depends on the context. Example: إِنْ أَحْسَنْتُمْ أَحْسَنْتُمْ لِأَنْفُسِكُمْ وَإِنْ أَسَأْتُمْ فَلَهَا If you do well, you do well for yourselves. The conditional expression particles are used with other verbs such as the verb كان *kāna.* The conditional construction (if-clause) + the verb	إِنْ إِذَا لو	*in* *'iḏā* *law*

[54] دُمْتُ here is the main verb.

kāna is used to express the feelings related to the probable recent past decision or to indicate what might have happened. Example: The following verse tells about the story of the Prophet Joseph, when he fled to the door and wanted to open it but the wife of Aziz ran after him, wanting to catch him. She grabbed his shirt and cut it. Then her husband opened the door. **إِن كَانَ قَمِيصُهُ قُدَّ مِنْ قُبُلٍ فَصَدَقَتْ** [Joseph] said, "It was she who sought to seduce me." And a witness from her family testified. "If his shirt is torn from the front, then she has told the truth, and he is of the liars.		
7- IMPV- Imperative particles **الأمر والنهي :أسلوب الطلب**		
These particles always precede imperfect verbs in the jussive mood. They express the meaning of 'command' or 'request' or a negative prohibition. The NEG-negative particle *lā* +imperfect aspect: Example: **فَلَا تُطِعِ الْمُكَذِّبِينَ** Then do not obey the deniers. In the following verse, Allah asks the Jews of Medina, who comes directly from the children of Israel, to "not be the first to disbelieve in" the Qur'an. **وَلَا تَكُونُوا أَوَّلَ كَافِرٍ بِهِ** And believe in what I have sent down confirming that which is [already] with you, and be not the first to disbelieve in it. And do not exchange My signs for a small price, and fear [only] Me.	**لا الناهية**	*lā*
8- CERT- Particle of certainty		

The perfect and imperfect verbs are placed after **قَدْ** *qad*. The particle **قَدْ** *qad* is usually used to add extra meaning to the action, such as 'already', 'indeed', 'surely' or 'just'. (Al-Sāmrā'ī, 2004). The CERT-particle **قَدْ** *qad* + the perfect aspect can be used to confirm a past event that happens very close to the time of speaking or that is happening in the present Al-Kafawī (1993). The particle **قَدْ** *qad* is used with other auxiliary verbs such as the verb **كان** *kāna* to confirm that an event had happened and finished in the distant past. Examples: **قَدْ سَمِعَ اللَّهُ قَوْلَ الَّتِي تُجَادِلُكَ فِي زَوْجِهَا** Certainly, has Allah heard the speech of the one who argues with you, [O Muhammad], concerning her husband and directs her complaint to Allah. And Allah hears your dialogue; indeed, Allah is Hearing and Seeing. **قَدْ يَعْلَمُ اللَّهُ الَّذِينَ يَتَسَلَّلُونَ مِنْكُمْ لِوَاذًا** Already Allah knows those of you who slip away. In the following verse, Allah affirmed that the Qur'an was revealed to His people, but they would not listen to it. Therefore, they will receive punishment. **قَدْ كَانَتْ آيَاتِي تُتْلَىٰ عَلَيْكُمْ فَكُنْتُمْ عَلَىٰ أَعْقَابِكُمْ تَنْكِصُونَ** My verses had already been recited to you, but you were turning back on your heels.	**قَدْ**	*qad*
9- FUT- future particle **سوف**		
This future particle is used in combination with imperfect verbs to form the future tense. Example: **وَسَوْفَ يُؤْتِ اللَّهُ الْمُؤْمِنِينَ أَجْرًا عَظِيمًا** And Allah is going to give the believers a great reward.	**سوف**	*sawfa*
10- REL- Relative pronoun		

A relative pronoun is used to introduce a relative clause, which is subordinate. It is known as **ما المصدرية الزمانية** *mā* – subordinate time pronoun in traditional Arabic grammar. Example: **إِنْ أُرِيدُ إِلَّا الْإِصْلَاحَ مَا اسْتَطَعْتُ** Only intend reform as much as I am able.	**ما**	*mā*

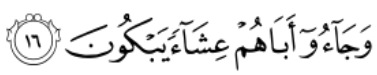
Morphological features

Future Prefix			
Segment, part of speech and description	Arabic Name	Transliteration	Tag
The imperfect verb follows it. Example: **عَلِمَ أَنْ سَيَكُونُ مِنْكُمْ مَرْضَىٰ وَآخَرُونَ يَضْرِبُونَ فِي الْأَرْضِ** He has known that there will be among you those who are ill and others travelling throughout the land seeking.	**السين**	*sa-*	FUT-
IMPV- Imperative prefix			
The prefix *li- lām* is usually used to express a command, an order or a request when followed by a verb in the imperfect aspect. The present simple tense in conjunction with the auxiliary verb 'let' is the most appropriate translation used in the example translations into English. Example: **فَلْيَعْبُدُوا رَبَّ هَٰذَا الْبَيْتِ** Let them worship the Lord of this House. In the following verse, Allah asked the Prophet Mohammed to order his people to spend money on the poor. **لِيُنْفِقْ ذُو سَعَةٍ مِنْ سَعَتِهِ** Let a man of wealth spend from his wealth, and he whose provision is restricted - let him spend from what Allah has given him.	**لـ**	**لام الأمر**	*li-*

The translations used in the examples show that in order to locate an action in time in English or to signify how an action is to be observed regarding time, a number of features are used to mark a verb inflectionally. These types of inflectional features are used to mark past tense (-ed), non-past tenses, and the sub-classes of aspect such as progressive tense (-ing). Syntactically, the use of adverbs (never, before, etc.), the participle, the phrasal verb, the conditional structure, etc., are also used to indicate tense and aspect in English translations. This is important to consider here, particularly because these tools can compensate for translation decisions where the English must diverge from the Arabic original. Sometimes choices in English seem to be dictated by English grammatical rules, such that the tense and aspect are dictated by the reporting structure; in these cases, tense and aspect do not come across as marked in the same way the Arabic verbal choices appear to be. In the discussion of the following points, some examples of the morpho-syntactic features used in the English translations are presented to show the different ways in which the Arabic tenses and aspects can be translated with the aid of English morpho-syntactic features. (More examples and details of the statistical analysis can be found in the Electronic Appendix.)

- The English present participle -ing is used in English to indicate an ongoing action. However, the present participle can also be used as an adjective, for example:

  1.



Sahih International: And they <u>came</u> to their father at night, <u>weeping</u>.

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
وَجَاءُوا أَبَاهُمْ عِشَاءً يَبْكُونَ	weeping	weeping	weeping	weeping	weeping	weeping	they were weeping

Different translations are shown in the example above; one translation uses the past continuous; in the Arberry translation, the past continuous is used to translate the imperfect aspect, but we can see that the present participle is used to translate the imperfect aspect in the majority of the translations. Since the bare imperfect aspect is used to describe an action that was ongoing in the past, it is translated using the English present participle -ing, which

is commonly used in English to indicate an ongoing action. In this regard, Simon (2013) confirms that the present participle only refers to the same time period as the preceding verb. Participles in English and Arabic are arguably similar in their use of denoting an ongoing action. In English, for example, the present participle can also be used as an adjective, such as the word 'barking' in 'the barking dogs wanted to come inside', where the present participle modifies the noun 'dog', expressing the meaning that the action of barking was ongoing (Simon, 2013). In Arabic, the imperfect aspect can be used to express a repeated or continued action in the past; the participle that is derived from the imperfect aspect to mention the subject is also used to indicate the meaning of continual action in the past. The Qur'anic context expresses a continual action that had been happening in the past using the participle as the imperfect aspect. This is the case, for example, in the story of a group of people who were asleep with their dog in the cave for a long time (Qawāqizah, 2015), as in:

2.

وَتَحۡسَبُهُمۡ أَيۡقَاظٗا وَهُمۡ رُقُودٞۚ وَنُقَلِّبُهُمۡ ذَاتَ ٱلۡيَمِينِ وَذَاتَ ٱلشِّمَالِۖ وَكَلۡبُهُم بَٰسِطٞ
ذِرَاعَيۡهِ بِٱلۡوَصِيدِۚ لَوِ ٱطَّلَعۡتَ عَلَيۡهِمۡ لَوَلَّيۡتَ مِنۡهُمۡ فِرَارٗا وَلَمُلِئۡتَ مِنۡهُمۡ رُعۡبٗا ١٨

Sahih International: And you would think them awake, while they were asleep. And we turned them to the right and to the left, while their dog stretched his forelegs at the entrance. If you had looked at them, you would have turned from them in flight and been filled by them with terror.

Therefore, I would suggest that the translator may consider the verb interpretation in which the active participle, اسم الفاعل *ism al-fā'il* is used to interpret the imperfect aspect جاءو أباهم عشاء يبكون: باكين 'they came to their father at night, weep: weeping' (Al-Rāzi: 103) which is why it was chosen for the translation, or the translators may follow the English grammar rules.

More examples:

3.

وَأَنَّهُۥ لَمَّا قَامَ عَبۡدُ ٱللَّهِ يَدۡعُوهُ كَادُواْ يَكُونُونَ عَلَيۡهِ لِبَدٗا ١٩

Sahih International: And that when the Servant of Allah stood up supplicating Him, they almost became about him a compacted mass.

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
وَأَنَّهُ لَمَّا قَامَ عَبْدُ اللَّهِ يَدْعُوهُ كَادُوا يَكُونُونَ عَلَيْهِ لِبَدًا	supplicating	in prayer	to invoke	calling upon	Do not prostrate before anyone other than Him. When the servant of God (Muhammad) preached (his message) the jinn would all crowd around him.	invoking	calling

As the context makes clear that the actions have happened in the past, the imperfect aspect *yad'ūh* يدعوه 'supplicate' is used, which creates the image of an ongoing action when the Prophet Muhammad was inviting people to embrace Islam.

- In English translations, auxiliary verbs such as 'had', 'has', and 'used to' are used to indicate the event and its relationship to time in that the action was repeated or there was an event that happened before another event in the past. They also can be used to express the event that happened in the near'has'/far'had'past. The investigation shows that the verb *kāna* **كان**+ the imperfect aspect is used to indicate habitual, repeated or reiterated actions in the past. The habitual past is used in the example translations into English., in the contexts involving auxiliary verbs such as *kāna* + imperfect verb in Arabic, as in:

4.

وَكَانُوا۟ يَقُولُونَ أَئِذَا مِتْنَا وَكُنَّا تُرَابًا وَعِظَٰمًا أَءِنَّا لَمَبْعُوثُونَ ﴿٤٧﴾

وكَانُوا يَقُولُونَ

Sahih International: And they used to say, "When we die and become dust and bones, are we indeed to be resurrected?

5.

وَلَمَّا جَآءَهُمْ كِتَٰبٌ مِّنْ عِندِ ٱللَّهِ مُصَدِّقٌ لِّمَا مَعَهُمْ وَكَانُوا۟ مِن قَبْلُ يَسْتَفْتِحُونَ عَلَى
ٱلَّذِينَ كَفَرُوا۟ فَلَمَّا جَآءَهُم مَّا عَرَفُوا۟ كَفَرُوا۟ بِهِۦ ۚ فَلَعْنَةُ ٱللَّهِ عَلَى ٱلْكَٰفِرِينَ ﴿٨٩﴾

وكَانُوا مِنْ قَبْلُ يَسْتَفْتِحُونَ

Sahih International: And when there came to them a Book from Allah confirming that which was with them - although before they used to pray for victory against those who disbelieved - but [then] when there came to them that which they recognised, they disbelieved in it; so, the curse of Allah will be upon the disbelievers.

6.

فِى قُلُوبِهِم مَّرَضٌ فَزَادَهُمُ ٱللَّهُ مَرَضًا ۖ وَلَهُمْ عَذَابٌ أَلِيمٌۢ بِمَا كَانُوا۟ يَكْذِبُونَ ﴿١٠﴾

بِمَا كَانُوا يَكْذِبُونَ

Sahih International: In their hearts is disease, so Allah has increased their disease; and for them is a painful punishment because they [habitually] used to lie.

Different translations are used to translate the *kāna* + the imperfect aspect. The past progressive tense and the simple past tense are used in the example translations into English. In English grammar, the past tense of the verb to be' (was/were) and the main verb + 'ing' can be used to denote the progress of an action over time. The verb *kāna* followed by a verb in the imperfect aspect could be used to indicate an action that occurred at some point in the past. as in:

7.

وَإِذْ قَتَلْتُمْ نَفْسًا فَٱدَّٰرَـْٔتُمْ فِيهَا ۖ وَٱللَّهُ مُخْرِجٌ مَّا كُنتُمْ تَكْتُمُونَ ﴿٧٢﴾

وَاللَّهُ مُخْرِجٌ مَا كُنْتُمْ تَكْتُمُونَ

Sahih International: And [recall] when you slew a man and disputed over it, but Allah was to bring out that which you were concealing.

8.

فَبَدَّلَ ٱلَّذِينَ ظَلَمُوا۟ قَوْلًا غَيْرَ ٱلَّذِى قِيلَ لَهُمْ فَأَنزَلْنَا عَلَى ٱلَّذِينَ ظَلَمُوا۟ رِجْزًا
مِّنَ ٱلسَّمَآءِ بِمَا كَانُوا۟ يَفْسُقُونَ ﴿٥٩﴾

بِمَا كَانُوا يَفْسُقُونَ

Sahih International: But those who wronged changed [those words] to a statement other than that which had been said to them, so we sent down upon those who wronged a punishment from the sky because they were defiantly disobeying.

- The future simple tense using the verb ‘going to’ used in the example translations of the Sahih International translation into the English future tense. The effect of English grammar in the use of auxiliary verbs ‘going to’ to express actions that seem definite to happen in the future, or for plans and activities that have already been made may seem noticeable as has been discussed in some examples (See Chapter 6, Section 6.4.3. Examples 17, and 18).

- In English grammar, ‘never’ employees in statement case with the main verb and is used to indicate that the action will not happen. The adverbs ‘never’ or ‘not’ + the future simple tense are the most appropriate used in the example translations of imperfect aspect into English in negative future. ‘until’ in English grammar uses as subordinating conjunction to link an action or an event to a point in time, so, the adverb ‘never’ + the future simple tense + the proposition ‘until’ are used in the example translations into English to translate the P-preposition particle *ḥattā* **حتى** + particle *lan* **لَن** that are used to restrict future action by another action in the future, as in:

9.

قُل لَّن يَنفَعَكُمُ ٱلْفِرَارُ إِن فَرَرْتُم مِّنَ ٱلْمَوْتِ أَوِ ٱلْقَتْلِ وَإِذًا لَّا تُمَتَّعُونَ إِلَّا قَلِيلًا ﴿١٦﴾

لَنْ يَنْفَعَكُمُ الْفِرَارُ

Sahih International: Say, [O Muhammad], "Never will fleeing benefit you if you should flee from death or killing; and then [if you did], you would not be given enjoyment [of life] except for a little."

10.

وَإِذْ قُلْتُمْ يَٰمُوسَىٰ لَن نُّؤْمِنَ لَكَ حَتَّىٰ نَرَى ٱللَّهَ جَهْرَةً فَأَخَذَتْكُمُ ٱلصَّٰعِقَةُ وَأَنتُمْ تَنظُرُونَ ﴿٥٥﴾

لَنْ نُؤْمِنَ لَكَ

Sahih International: And [recall] when you said, "O Moses, we will never believe you until we see Allah outright"; so the thunderbolt took you while you were looking on.

لَن نَّنَالُواْ ٱلۡبِرَّ حَتَّىٰ تُنفِقُواْ مِمَّا تُحِبُّونَۚ وَمَا تُنفِقُواْ مِن شَيۡءٖ فَإِنَّ ٱللَّهَ بِهِۦ عَلِيمٞ ٩٢

لَنْ تَنَالُوا الْبِرَّ حَتَّىٰ تُنْفِقُوا

Sahih International 'Never will you attain the good [reward] until you spend [in the way of Allah] from that which you love. And whatever you spend - indeed, Allah is knowing of it'.

- The adverbs 'still', 'always', 'will'+ 'not/never' + 'cease' + 'will continue' being used in the example translations into English. 'Not' + 'cease' +' simple future'+' infinitive' is used to translate the verb *lā-yazālu* **لا يزال +**the imperfect aspect construction. Verbs of continuity are used by some translators to indicate the tense of aspect, as in:

11.

فَمَا زَالَت تِّلۡكَ دَعۡوَىٰهُمۡ حَتَّىٰ جَعَلۡنَٰهُمۡ حَصِيدًا خَٰمِدِينَ ١٥

Sahih International: And that declaration of theirs did not cease until we made them [as] a harvest [mowed down], extinguished [like a fire].

12.

يَسۡـَٔلُونَكَ عَنِ ٱلشَّهۡرِ ٱلۡحَرَامِ قِتَالٖ فِيهِۖ قُلۡ قِتَالٞ فِيهِ كَبِيرٞۖ وَصَدٌّ عَن سَبِيلِ ٱللَّهِ وَكُفۡرُۢ بِهِۦ وَٱلۡمَسۡجِدِ ٱلۡحَرَامِ وَإِخۡرَاجُ أَهۡلِهِۦ مِنۡهُ أَكۡبَرُ عِندَ ٱللَّهِۚ وَٱلۡفِتۡنَةُ أَكۡبَرُ مِنَ ٱلۡقَتۡلِۗ وَلَا يَزَالُونَ يُقَٰتِلُونَكُمۡ حَتَّىٰ يَرُدُّوكُمۡ عَن دِينِكُمۡ إِنِ ٱسۡتَطَٰعُواْۚ وَمَن يَرۡتَدِدۡ مِنكُمۡ عَن دِينِهِۦ فَيَمُتۡ وَهُوَ كَافِرٞ فَأُوْلَٰٓئِكَ حَبِطَتۡ أَعۡمَٰلُهُمۡ فِي ٱلدُّنۡيَا وَٱلۡأٓخِرَةِۖ وَأُوْلَٰٓئِكَ أَصۡحَٰبُ ٱلنَّارِۖ هُمۡ فِيهَا خَٰلِدُونَ ٢١٧

وَلَا يَزَالُونَ يُقَاتِلُونَكُمْ

Sahih International: They ask you about the sacred month - about fighting therein. Say, "Fighting therein is great [sin], but averting [people] from the way of Allah and disbelief in Him and [preventing access to] al-Masjid al-haram and the expulsion of its people therefrom are greater [evil] in the sight of Allah. And fitnah is greater than killing." And they will continue to fight you until they turn you back from your religion if they are able. And whoever of you reverts from his religion [to disbelief] and dies while he is a disbeliever - for those, their deeds have become worthless in this world and the Hereafter, and those are the companions of the Fire, they will abide therein eternally.

13.

وَلَوْ أَنَّ قُرْءَانًا سُيِّرَتْ بِهِ ٱلْجِبَالُ أَوْ قُطِّعَتْ بِهِ ٱلْأَرْضُ أَوْ كُلِّمَ بِهِ ٱلْمَوْتَىٰ ۗ بَل لِّلَّهِ ٱلْأَمْرُ
جَمِيعًا ۗ أَفَلَمْ يَاْيْـَٔسِ ٱلَّذِينَ ءَامَنُوٓا۟ أَن لَّوْ يَشَآءُ ٱللَّهُ لَهَدَى ٱلنَّاسَ جَمِيعًا ۗ وَلَا يَزَالُ ٱلَّذِينَ
كَفَرُوا۟ تُصِيبُهُم بِمَا صَنَعُوا۟ قَارِعَةٌ أَوْ تَحُلُّ قَرِيبًا مِّن دَارِهِمْ حَتَّىٰ يَأْتِىَ وَعْدُ ٱللَّهِ ۚ إِنَّ ٱللَّهَ لَا
يُخْلِفُ ٱلْمِيعَادَ ﴿٣١﴾

وَلَا يَزَالُ الَّذِينَ كَفَرُوا تُصِيبُهُمْ

Sahih International: And if there was any Quran by which the mountains would be removed or the earth would be broken apart or the dead would be made to speak, [it would be this Qur' an], but to Allah belongs the affair entirely. Then have those who believed not accepted that had Allah willed, He would have guided the people, all of them? And those who disbelieve do not cease to be struck, for what they have done, by calamity - or it will descend near their home - until there comes the promise of Allah. Indeed, Allah does not fail in [His] promise.

14.

فَبِمَا نَقْضِهِم مِّيثَٰقَهُمْ لَعَنَّٰهُمْ وَجَعَلْنَا قُلُوبَهُمْ قَٰسِيَةً ۖ يُحَرِّفُونَ ٱلْكَلِمَ
عَن مَّوَاضِعِهِۦ وَنَسُوا۟ حَظًّا مِّمَّا ذُكِّرُوا۟ بِهِۦ ۚ وَلَا تَزَالُ تَطَّلِعُ عَلَىٰ خَآئِنَةٍ مِّنْهُمْ إِلَّا قَلِيلًا
مِّنْهُمْ ۖ فَٱعْفُ عَنْهُمْ وَٱصْفَحْ ۚ إِنَّ ٱللَّهَ يُحِبُّ ٱلْمُحْسِنِينَ ﴿١٣﴾

وَلَا تَزَالُ تَطَّلِعُ عَلَىٰ خَائِنَةٍ مِنْهُمْ

Sahih International: So, for their breaking of the covenant we cursed them and made their hearts hard. They distort words from their [proper] usages and have forgotten a portion of that of which they were reminded. And you will still observe deceit among them, except a few of them. But pardon them and overlook [their misdeeds]. Indeed, Allah loves the doers of good.

- In English grammar, an if-clause structure often mentions a condition; therefore, the present simple tense in the if-clause is used to translate the particle *lam* لم + the imperfect aspect construction, in the conditional sentence; as, for example, in the story of Prophet Yusuf and his brothers:

  15.

فَإِن لَّمۡ تَأۡتُونِي بِهِۦ فَلَا كَيۡلَ لَكُمۡ عِندِي وَلَا تَقۡرَبُونِ ٦٠

فَإِنْ لَمْ تَأْتُونِي بِهِ فَلَا كَيْلَ لَكُمْ

Sahih International: But if you do not bring him to me, no measure will there be [hereafter] for you from me, nor will you approach me."

- The particle *lam* + the imperfect aspect is used to negate the action and place it in the distant past, especially in stories, and the simple past tense using the auxiliary verb 'did' in active, 'were' in passive + 'not' is used in the example translations into English. In English rules, the auxiliary 'not'+did expressions that the sentences are negative and in the past tense, as in:

  - In the story about Prophet Muhammad, when he was in the cave with his companion and the angels supported them while the disbelievers did not see them at that time.

  16.

إِلَّا تَنصُرُوهُ فَقَدۡ نَصَرَهُ ٱللَّهُ إِذۡ أَخۡرَجَهُ ٱلَّذِينَ كَفَرُواْ ثَانِيَ ٱثۡنَيۡنِ إِذۡ هُمَا فِي ٱلۡغَارِ إِذۡ يَقُولُ لِصَٰحِبِهِۦ لَا تَحۡزَنۡ إِنَّ ٱللَّهَ مَعَنَاۖ فَأَنزَلَ ٱللَّهُ سَكِينَتَهُۥ عَلَيۡهِ وَأَيَّدَهُۥ بِجُنُودٖ لَّمۡ تَرَوۡهَا وَجَعَلَ كَلِمَةَ ٱلَّذِينَ كَفَرُواْ ٱلسُّفۡلَىٰۗ وَكَلِمَةُ ٱللَّهِ هِيَ ٱلۡعُلۡيَاۗ وَٱللَّهُ عَزِيزٌ حَكِيمٌ ٤٠

وَأَيَّدَهُ بِجُنُودٍ لَمْ تَرَوْهَا

Sahih International: ….. And Allah sent down his tranquillity upon him and supported him with angels you did not see and made the word of those who disbelieved the lowest, …..

- In the story of Al-Azīz's wife with the prophet Yusuf, when Yusuf explains that he did not betray Al-Azīz at any point in the past:

  17.

ذَٰلِكَ لِيَعْلَمَ أَنِّي لَمْ أَخُنْهُ بِالْغَيْبِ وَأَنَّ اللَّهَ لَا يَهْدِي كَيْدَ الْخَائِنِينَ ﴿٥٢﴾

لَمْ أَخُنْهُ بِالْغَيْبِ

Sahih International: That is so al-Azeez will know that I did not betray him in [his] absence and that Allah does not guide the plan of betrayers.

This meaning is indicated by the sequence of events in the context of the story, not by the particle only, as he did not give a response to the king's messenger when the king said, 'Bring him to me' (Sahih International translation):

وَقَالَ الْمَلِكُ ائْتُونِي بِهِ ۖ فَلَمَّا جَاءَهُ الرَّسُولُ قَالَ ارْجِعْ إِلَىٰ رَبِّكَ فَاسْأَلْهُ مَا بَالُ النِّسْوَةِ
الَّاتِي قَطَّعْنَ أَيْدِيَهُنَّ ۚ إِنَّ رَبِّي بِكَيْدِهِنَّ عَلِيمٌ ﴿٥٠﴾

- The NEG-negative particle *lam* لم + the imperfect aspect construction is used to negate a future action/event in cases when the event is sure to happen in the afterlife. The future perfect/simple tense + 'not/never' is used in the example translations into English, as in:

  18.

فِيهِنَّ قَاصِرَاتُ الطَّرْفِ لَمْ يَطْمِثْهُنَّ إِنسٌ قَبْلَهُمْ وَلَا جَانٌّ ﴿٥٦﴾

لَمْ يَطْمِثْهُنَّ

Yusuf Ali: In them will be (Maidens), chaste, restraining their glances, whom no man or Jinn before them has touched;-

- The NEG-negative particle *lam* لم+ the imperfect aspect is used to negate an action that is general information and is true all the time. The present simple tense + 'no' is used in such cases, as in:

  19.

لَمْ يَلِدْ وَلَمْ يُولَدْ

لَمْ يَلِدْ وَلَمْ يُولَدْ

Sahih International: He neither begets nor is born,

20.

بَدِيعُ ٱلسَّمَٰوَٰتِ وَٱلْأَرْضِ ۖ أَنَّىٰ يَكُونُ لَهُۥ وَلَدٌ وَلَمْ تَكُن لَّهُۥ صَٰحِبَةٌ ۖ وَخَلَقَ كُلَّ شَىْءٍ ۖ وَهُوَ بِكُلِّ شَىْءٍ عَلِيمٌ ﴿١٠١﴾

وَلَمْ تَكُنْ لَهُ صَاحِبَةٌ

Sahih International: [He is the] Originator of the heavens and the earth. How could He have a son when He does not have a companion and He created all things? And He is, of all things, knowing.

21.

وَقُلِ ٱلْحَمْدُ لِلَّهِ ٱلَّذِى لَمْ يَتَّخِذْ وَلَدًا وَلَمْ يَكُن لَّهُۥ شَرِيكٌ فِى ٱلْمُلْكِ وَلَمْ يَكُن لَّهُۥ وَلِىٌّ مِّنَ ٱلذُّلِّ وَكَبِّرْهُ تَكْبِيرًا ﴿١١١﴾

لَمْ يَتَّخِذْ وَلَدًا وَلَمْ يَكُنْ لَهُ شَرِيكٌ فِي الْمُلْكِ

Yusuf Ali: Say: "Praise be to Allah, who begets no son, and has no partner in (His) dominion: Nor (needs) He any to protect Him from humiliation: yea, magnify Him for His greatness and glory!"

- English with the NEG-negative past simple tense using auxiliary verbs such as 'were', 'did', 'would', etc., are used to translate the NEG-negative particle *lam* لم+ the verb *ya-kun* يـكن+ the imperfect aspect, as in:

22.

كَمَآ أَرۡسَلۡنَا فِيكُمۡ رَسُولٗا مِّنكُمۡ يَتۡلُواْ عَلَيۡكُمۡ ءَايَٰتِنَا وَيُزَكِّيكُمۡ
وَيُعَلِّمُكُمُ ٱلۡكِتَٰبَ وَٱلۡحِكۡمَةَ وَيُعَلِّمُكُم مَّا لَمۡ تَكُونُواْ تَعۡلَمُونَ ١٥١

مَا لَمْ تَكُونُوا تَعْلَمُونَ

Sahih International: Just as We have sent among you a messenger from yourselves reciting to you Our verses and purifying you and teaching you the Book and wisdom and teaching you that which you did not know.

- The auxiliary verbs such as ‘could’, is used in the example translations into English to translate the NEG-negative particle *lam* لم+ the verb *ya-kun* يـكن+ the imperfect aspect that is used to express a sense of inability in the past, as in:

23.

وَتَحۡمِلُ أَثۡقَالَكُمۡ إِلَىٰ بَلَدٖ لَّمۡ تَكُونُواْ بَٰلِغِيهِ إِلَّا بِشِقِّ ٱلۡأَنفُسِۚ إِنَّ رَبَّكُمۡ
لَرَءُوفٞ رَّحِيمٞ ٧

لَّم تَكُونُوا

Yusuf Ali: And they carry your heavy loads to lands that ye could not (otherwise) reach except with souls distressed: for your Lord is indeed Most Kind, Most Merciful.

- The prefix *li- lām* is usually used to express a command, an order or a request when followed by a verb in the imperfect aspect, and the present simple tense in conjunction with the auxiliary verb ‘let’ is used in the example translations into English, as in :

24.

فَلۡيَعۡبُدُواْ رَبَّ هَٰذَا ٱلۡبَيۡتِ ٣

فَلْيَعْبُدُوا

Sahih International: Let them worship the Lord of this House

25.

فَلۡيَأۡتُواْ بِحَدِيثٖ مِّثۡلِهِۦٓ إِن كَانُواْ صَٰدِقِينَ ٣٤

فَلْيَأْتُوا

Sahih International: Then let them produce a statement like it, if they should be truthful.

- The simple past tense in the conditional clause and the auxiliary verb ‘could’ in the main clause are used in translations into English to translate the COND- conditional particle *law* **لو** + the imperfect aspect, as in:

  26.

وَلَوْ نَشَآءُ لَأَرَيْنَـٰكَهُمْ فَلَعَرَفْتَهُم بِسِيمَـٰهُمْ ۚ وَلَتَعْرِفَنَّهُمْ فِى لَحْنِ ٱلْقَوْلِ ۚ وَٱللَّهُ يَعْلَمُ أَعْمَـٰلَكُمْ ﴿٣٠﴾

وَلَوْ نَشَاءُ لَأَرَيْنَاكَهُمْ

Sahih International: And if we willed, we could show them to you, and you would know them by their mark; but you will surely know them by the tone of [their] speech. And Allah knows your deeds.

27.

أَوَلَمْ يَهْدِ لِلَّذِينَ يَرِثُونَ ٱلْأَرْضَ مِنۢ بَعْدِ أَهْلِهَآ أَن لَّوْ نَشَآءُ أَصَبْنَـٰهُم بِذُنُوبِهِمْ ۚ وَنَطْبَعُ عَلَىٰ قُلُوبِهِمْ فَهُمْ لَا يَسْمَعُونَ ﴿١٠٠﴾

أَنْ لَوْ نَشَاءُ أَصَبْنَاهُمْ بِذُنُوبِهِمْ

Sahih International: Has it not become clear to those who inherited the earth after its [previous] people that if we willed, we could afflict them for their sins? But we seal over their hearts, so they do not hear.

- The past + infinitive and the past + gerund are used to translate the imperfect aspect to translate the verb **أصبح** *aṣbaḥa* + the imperfect aspect that is used to denote the actions that happened in the morning or to indicate ‘to become’, as in:

  28.

وَأُحِيطَ بِثَمَرِهِۦ فَأَصْبَحَ يُقَلِّبُ كَفَّيْهِ عَلَىٰ مَآ أَنفَقَ فِيهَا وَهِىَ خَاوِيَةٌ عَلَىٰ عُرُوشِهَا وَيَقُولُ يَـٰلَيْتَنِى لَمْ أُشْرِكْ بِرَبِّىٓ أَحَدًا ﴿٤٢﴾

فَأَصْبَحَ يُقَلِّبُ

Sahih International: And his fruits were encompassed [by ruin], so he began to turn his hands about [in dismay] over what he had spent on it, while it had collapsed upon its trellises, and said, "Oh, I wish I had not associated with my Lord anyone."

A.

وَأُحِيطَ بِثَمَرِهِۦ فَأَصْبَحَ يُقَلِّبُ كَفَّيْهِ عَلَىٰ مَآ أَنفَقَ فِيهَا وَهِىَ خَاوِيَةٌ عَلَىٰ عُرُوشِهَا وَيَقُولُ يَٰلَيْتَنِى لَمْ أُشْرِكْ بِرَبِّىٓ أَحَدًا ﴿٤٢﴾

وَأُحِيطَ بِثَمَرِهِ

Sahih International: And those who had wished for his position the previous day began to say, "Oh, how Allah extends provision to whom He wills of His servants and restricts it! If not that Allah had conferred favor on us, He would have caused it to swallow us. Oh, how the disbelievers do not succeed!"

- The past of will + the adverb 'never' in the example translations into English is used to translate the construction *kāna sa-yaf'ulu* **كان سيفعل** that is used to indicate a future action that is connected to the past or to define past beliefs concerning the future, as in:

29.

أَلَمْ يَأْتِهِمْ نَبَأُ ٱلَّذِينَ مِن قَبْلِهِمْ قَوْمِ نُوحٍ وَعَادٍ وَثَمُودَ وَقَوْمِ إِبْرَٰهِيمَ وَأَصْحَٰبِ مَدْيَنَ وَٱلْمُؤْتَفِكَٰتِ ۚ أَتَتْهُمْ رُسُلُهُم بِٱلْبَيِّنَٰتِ ۖ فَمَا كَانَ ٱللَّهُ لِيَظْلِمَهُمْ وَلَٰكِن كَانُوٓا۟ أَنفُسَهُمْ يَظْلِمُونَ ﴿٧٠﴾

فَمَا كَانَ اللَّهُ لِيَظْلِمَهُمْ

Sahih International: Has there not reached them the news of those before them - the people of Noah and [the tribes of] 'Aad and Thamud and the people of Abraham and the companions of Madyan and the towns overturned? Their messengers came to them with clear proofs. And Allah would never have wronged them, but they were wronging themselves.

30.

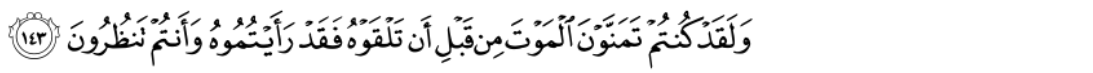
وَكَذَٰلِكَ جَعَلْنَٰكُمْ أُمَّةً وَسَطًا لِّتَكُونُوا۟ شُهَدَآءَ عَلَى ٱلنَّاسِ وَيَكُونَ ٱلرَّسُولُ عَلَيْكُمْ شَهِيدًا ۗ وَمَا جَعَلْنَا ٱلْقِبْلَةَ ٱلَّتِى كُنتَ عَلَيْهَآ إِلَّا لِنَعْلَمَ مَن يَتَّبِعُ ٱلرَّسُولَ مِمَّن يَنقَلِبُ عَلَىٰ عَقِبَيْهِ ۚ وَإِن كَانَتْ لَكَبِيرَةً إِلَّا عَلَى ٱلَّذِينَ هَدَى ٱللَّهُ ۗ وَمَا كَانَ ٱللَّهُ لِيُضِيعَ إِيمَٰنَكُمْ ۚ إِنَّ ٱللَّهَ بِٱلنَّاسِ لَرَءُوفٌ رَّحِيمٌ ﴿١٤٣﴾

مَا كَانَ اللَّهُ لِيُضِيعَ إِيمَانَكُمْ

Sahih International: And thus we have made you a just community that you will be witnesses over the people and the Messenger will be a witness over you. And We did not make the qiblah which you used to face except that We might make evident who would follow the Messenger from who would turn back on his heels. And indeed, it is difficult except for those whom Allah has guided. And never would Allah have caused you to lose your faith. Indeed Allah is, to the people, Kind and Merciful.

- The adverbs ‘certainly’ and ‘indeed’ or ‘already’, and the simple past tense, are used in the example translations into English to translate the imperfect aspect that is used with the verb *kāna* **كان**+ the CERT- particle *qad* **قد**.

31.

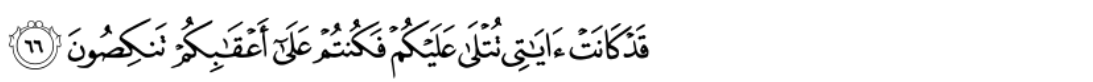


وَلَقَدْ كُنْتُمْ تَمَنَّوْنَ الْمَوْتَ مِنْ قَبْلِ أَنْ تَلْقَوْهُ

Yusuf Ali: Ye did indeed wish for death before ye met him: Now ye have seen him with your own eyes, (And ye flinch!)

Sahih International: And you had certainly wished for martyrdom before you encountered it, and you have [now] seen it [before you] while you were looking on.

32.



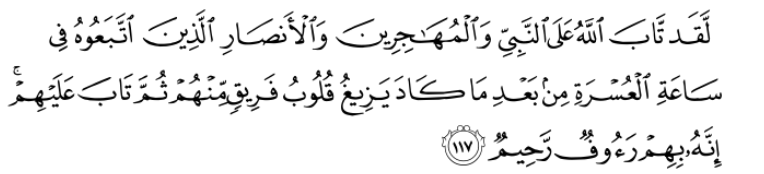
قَدْ كَانَتْ آيَاتِي تُتْلَىٰ عَلَيْكُمْ

Sahih International: My verses had already been recited to you, but you were turning back on your heels

- The verb *kāda* **كاد**+ the imperfect aspect is used to indicate an action that almost took place in the distant past; the past simple using the adverbs ‘surely’, ‘nearly’, ‘near to’ ‘about’, ‘just’ and the adverb ‘almost’ are used in the example translations into English, as in:

It the following examples, the verse describes an action that almost happened but did not:

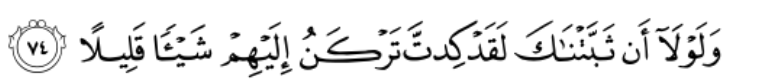
33.


لَّقَد تَّابَ ٱللَّهُ عَلَى ٱلنَّبِيِّ وَٱلْمُهَٰجِرِينَ وَٱلْأَنصَارِ ٱلَّذِينَ ٱتَّبَعُوهُ فِي سَاعَةِ ٱلْعُسْرَةِ مِنۢ بَعْدِ مَا كَادَ يَزِيغُ قُلُوبُ فَرِيقٍ مِّنْهُمْ ثُمَّ تَابَ عَلَيْهِمْ ۚ إِنَّهُۥ بِهِمْ رَءُوفٌ رَّحِيمٌ ﴿١١٧﴾

مِنْ بَعْدِ مَا كَادَ يَزِيغُ قُلُوبُ فَرِيقٍ مِنْهُمْ

Shakir: Certainly, Allah has turned (mercifully) to the Prophet and those who fled (their homes) and the helpers who followed him in the hour of straitness after the hearts of a part of them were about to deviate, then He turned to them (mercifully); surely to them He is Compassionate, Merciful.

34.

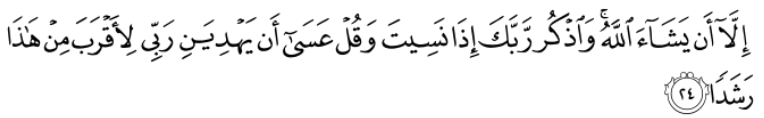

وَلَوْلَآ أَن ثَبَّتْنَٰكَ لَقَدْ كِدتَّ تَرْكَنُ إِلَيْهِمْ شَيْـًٔا قَلِيلًا ﴿٧٤﴾

وَلَوْلَا أَنْ ثَبَّتْنَاكَ لَقَدْ كِدْتَ تَرْكَنُ إِلَيْهِمْ

Sahih International: And if We had not strengthened you, you would have almost inclined to them a little.

- The future simple tense with adverbs ‘perhaps’, ‘maybe’ and ‘may’ + future simple tense is used in the example translations into English to translate the verb **عسى** *ʿasā* + the imperfect aspect that is used to indicate an action that may happen very soon in the future, as in:

35.


إِلَّآ أَن يَشَآءَ ٱللَّهُ ۚ وَٱذْكُر رَّبَّكَ إِذَا نَسِيتَ وَقُلْ عَسَىٰٓ أَن يَهْدِيَنِ رَبِّى لِأَقْرَبَ مِنْ هَٰذَا رَشَدًا ﴿٢٤﴾

عَسَىٰ رَبِّي أَنْ يَهْدِيَنِي

/

Sahih International: Except [when adding], “If Allah wills.” And remember your Lord when you forget [it] and say, “Perhaps my Lord will guide me to what is nearer than this to right conduct.”

- The past simple tense ‘began’ + the infinitive construction is used in the example translations into English to translate the examples that contain the verb *ṭafiqa* **طفق**, which is used to indicate an action that has already started, as in:

36.

فَدَلَّىٰهُمَا بِغُرُورٍ ۚ فَلَمَّا ذَاقَا ٱلشَّجَرَةَ بَدَتْ لَهُمَا سَوْءَٰتُهُمَا وَطَفِقَا يَخْصِفَانِ عَلَيْهِمَا مِن وَرَقِ
ٱلْجَنَّةِ ۖ وَنَادَىٰهُمَا رَبُّهُمَآ أَلَمْ أَنْهَكُمَا عَن تِلْكُمَا ٱلشَّجَرَةِ وَأَقُل لَّكُمَآ إِنَّ ٱلشَّيْطَٰنَ لَكُمَا عَدُوٌّ مُّبِينٌ
٢٢

وَطَفِقَا يَخْصِفَانِ

Sahih International: So, he made them fall through deception. And when they tasted of the tree, their private parts became apparent to them, and they began to fasten together over themselves from the leaves of Paradise. And their Lord called to them, "did I not forbid you from that tree and tell you that Satan is to you a clear enemy?"

- Phrasal verbs (the future simple tense with the modal verb 'will' + the present participle) are used in the example translations into English to translate the auxiliary verb (past form) *aqbala* **أقبل** + the imperfect aspect, as in:

for example,

- When the Qur'an talks about what is going to happen in the afterlife, as in:

37.

فَأَقْبَلَ بَعْضُهُمْ عَلَىٰ بَعْضٍ يَتَسَآءَلُونَ ٥٠

وَأَقْبَلَ بَعْضُهُمْ عَلَىٰ بَعْضٍ يَتَسَاءَلُونَ

Sahih International: And they will approach one another, inquiring of each other.

- The adverbs of time, 'morning' and 'afternoon' + present simple tense, are used in the example translations into English to translate the time adverbs *bukratan* 'morning' and *wa-aṣīlan* 'afternoon', as in:

38.

وَقَالُوٓا۟ أَسَٰطِيرُ ٱلْأَوَّلِينَ ٱكْتَتَبَهَا فَهِىَ تُمْلَىٰ عَلَيْهِ بُكْرَةً وَأَصِيلًا ٥

تُمْلَىٰ عَلَيْهِ بُكْرَةً وَأَصِيلًا

Sahih International: And they say, "Legends of the former peoples which he has written down, and they are dictated to him morning and afternoon."

- The time adverb ‘there’ + the future simple tense is in the example translations into English to translate the time adverb *hunālik* **هُنَالِك** + the imperfect aspect that is used to indicate a completed action at a specific point in the future, as in:
  39.

هُنَالِكَ تَبْلُوا۟ كُلُّ نَفْسٍ مَّآ أَسْلَفَتْ ۚ وَرُدُّوٓا۟ إِلَى ٱللَّهِ مَوْلَىٰهُمُ ٱلْحَقِّ ۖ وَضَلَّ عَنْهُم مَّا كَانُوا۟ يَفْتَرُونَ ﴿٣٠﴾

هُنَالِكَ تَبْلُو كُلُّ نَفْسٍ

Sahih International: <u>There</u>, [on that Day], <u>every soul will be put</u> to trial for what it did previously, and they will be returned to Allah, their master, the Truth, and lost from them is whatever.

- The time adverb *ḥīn* **حِين** + the imperfect aspect is used to locate an action in a specific point of time. The conjunction ‘when’ + the present simple tense is used in the example translations into English, as in:
  40.

وَلَكُمْ فِيهَا جَمَالٌ حِينَ تُرِيحُونَ وَحِينَ تَسْرَحُونَ ﴿٦﴾

حِينَ تُرِيحُونَ

Sahih International: And for you in them is [the enjoyment of] beauty <u>when you bring them</u> in [for the evening] and <u>when you send them out</u> [to pasture].

- Adverbial phrases using the words ‘before’, ‘from the old’ and ‘aforetime’ are used to translate the adverb *qabl* the time adverb *qablu* **قبل** that is used with the main verb, auxiliary verb, particle, etc., to indicate an action that happened for a long time, as in:
  41.

وَإِذَا قِيلَ لَهُمْ ءَامِنُوا۟ بِمَآ أَنزَلَ ٱللَّهُ قَالُوا۟ نُؤْمِنُ بِمَآ أُنزِلَ عَلَيْنَا وَيَكْفُرُونَ بِمَا وَرَآءَهُۥ وَهُوَ ٱلْحَقُّ مُصَدِّقًا لِّمَا مَعَهُمْ ۗ قُلْ فَلِمَ تَقْتُلُونَ أَنۢبِيَآءَ ٱللَّهِ مِن قَبْلُ إِن كُنتُم مُّؤْمِنِينَ ﴿٩١﴾

فَلِمَ تَقْتُلُونَ أَنْبِيَاءَ اللَّهِ مِنْ قَبْلُ

Sahih International: And when it is said to them, “Believe in what Allah has revealed”, they say, “we believe [only] in what was revealed to us”. And they disbelieve in what came after it, while it is the truth confirming that which is with them. Say, “Then why did you kill the prophets of Allah before, if you are [indeed] believers?”

- In English, ‘ever’ regularly means at any time. The present simple tense using the adverb ‘ever’ is used in the example translations into English to translate the verb *kāna* that is used to indicate ‘continuity without a certain time’, as in:
  42.

يَٰٓأَيُّهَا ٱلنَّاسُ ٱتَّقُوا۟ رَبَّكُمُ ٱلَّذِى خَلَقَكُم مِّن نَّفْسٍ وَٰحِدَةٍ وَخَلَقَ مِنْهَا زَوْجَهَا وَبَثَّ مِنْهُمَا رِجَالًا كَثِيرًا وَنِسَآءً ۚ وَٱتَّقُوا۟ ٱللَّهَ ٱلَّذِى تَسَآءَلُونَ بِهِۦ وَٱلْأَرْحَامَ ۚ إِنَّ ٱللَّهَ كَانَ عَلَيْكُمْ رَقِيبًا ﴿١﴾

إِنَّ اللَّهَ كَانَ عَلَيْكُمْ رَقِيبًا

Sahih International: O mankind, fear your Lord, who created you from one soul and created from it its mate and dispersed from both of them many men and women. And fear Allah , through whom you ask one another, and the wombs. Indeed Allah is ever, over you, an Observer.

- The conjunction ‘ever’, ‘as long as’ or ‘wherever’ is used in the example translations into English to translate the verb *mā dāma* to refer to the intended duration of an action or event in time, as in:
  43.

قَالُوا۟ يَٰمُوسَىٰٓ إِنَّا لَن نَّدْخُلَهَآ أَبَدًا مَّا دَامُوا۟ فِيهَا ۖ فَٱذْهَبْ أَنتَ وَرَبُّكَ فَقَٰتِلَآ إِنَّا هَٰهُنَا قَٰعِدُونَ ﴿٢٤﴾

مَا دَامُوا

Sahih International: They said, "O Moses, indeed we will not enter it, ever, as long as they are within it; so go, you and your Lord, and fight. Indeed, we are remaining right here."

- The past perfect tense, along with the adverbs ’certainly’ or ‘already’, is used in the example translations into English to translate the CERT- particle *qad* + perfect aspect to confirm what happened previous to another action or up to a particular time in the past, especially in the context of stories that happened in the past, as in :

  -In the context of Allah telling the Prophet Muhammad he has heard what the man of Jews said to Abu Bakr (‘Allah is poor, while we are rich’), the timing of what the man discussed and when Allah heard is very close:

44.

لَّقَدْ سَمِعَ ٱللَّهُ قَوْلَ ٱلَّذِينَ قَالُوٓاْ إِنَّ ٱللَّهَ فَقِيرٌ وَنَحْنُ أَغْنِيَآءُ سَنَكْتُبُ مَا قَالُواْ
وَقَتْلَهُمُ ٱلْأَنۢبِيَآءَ بِغَيْرِ حَقٍّ وَنَقُولُ ذُوقُواْ عَذَابَ ٱلْحَرِيقِ ﴿١٨١﴾

لَقَدْ سَمِعَ اللَّهُ قَوْلَ الَّذِينَ قَالُوا

Sahih International: Allah has certainly heard the statement of those [Jews] who said, "Indeed, Allah is poor, while we are rich." We will record what they said and their killing of the prophets without right and will say, "Taste the punishment of the Burning Fire.

- The present perfect tense + the adverb ‘indeed’ are used in the example translations into English to translate the particle *qad* that is used to express that an action has just happened, and the particle *inna* expresses that the action has indeed happened, as in :

45.

وَرَسُولًا إِلَىٰ بَنِيٓ إِسْرَٰٓءِيلَ أَنِّى قَدْ جِئْتُكُم بِـَٔايَةٍ مِّن رَّبِّكُمْ ۖ أَنِّىٓ أَخْلُقُ لَكُم مِّنَ
ٱلطِّينِ كَهَيْـَٔةِ ٱلطَّيْرِ فَأَنفُخُ فِيهِ فَيَكُونُ طَيْرًۢا بِإِذْنِ ٱللَّهِ ۖ وَأُبْرِئُ ٱلْأَكْمَهَ
وَٱلْأَبْرَصَ وَأُحْىِ ٱلْمَوْتَىٰ بِإِذْنِ ٱللَّهِ ۖ وَأُنَبِّئُكُم بِمَا تَأْكُلُونَ وَمَا تَدَّخِرُونَ فِى بُيُوتِكُمْ ۚ
إِنَّ فِى ذَٰلِكَ لَـَٔايَةً لَّكُمْ إِن كُنتُم مُّؤْمِنِينَ ﴿٤٩﴾

أَنِّي قَدْ جِئْتُكُمْ

Sahih International: And [make him] a messenger to the Children of Israel, [who will say], 'Indeed I have come to you with a sign from your Lord in that I design for you from clay [that which is] like the form of a bird, then I breathe into it and it becomes a bird by permission of Allah. And I cure the blind and the leper, and I give life to the dead - by permission of Allah. And I inform you of what you eat and what you store in your houses. Indeed in that is a sign for you, if you are believers.

- The present simple tense, used with adverbs such as ‘wherever’, is used in the example translations into English to translate the perfect aspect, in conjunction with the adverb *haythu* **حيث** ‘wherever’ to indicate the location of an action that can possibly happen in the present or future, as in :

46.

وَمِنْ حَيْثُ خَرَجْتَ فَوَلِّ وَجْهَكَ شَطْرَ ٱلْمَسْجِدِ ٱلْحَرَامِ ۖ وَإِنَّهُۥ لَلْحَقُّ مِن رَّبِّكَ ۗ وَمَا
ٱللَّهُ بِغَٰفِلٍ عَمَّا تَعْمَلُونَ ﴿١٤٩﴾

وَمِنْ حَيْثُ خَرَجْتَ فَوَلِّ

Sahih International: So from wherever you go out [for prayer, O Muhammad] turn your face toward al- Masjid al-haram, and indeed, it is the truth from your Lord. And Allah is not unaware of what you do.

- The adverb ‘perhaps’, or the modal verb ‘may’ + the conditional clause using the construction ‘if’ + past simple is used in the example translations for the conditional clause, as in:

  47.

فَهَلۡ عَسَيۡتُمۡ إِن تَوَلَّيۡتُمۡ أَن تُفۡسِدُواْ فِي ٱلۡأَرۡضِ وَتُقَطِّعُوٓاْ أَرۡحَامَكُمۡ ٢٢

عَسَيْتُمْ إِنْ تَوَلَّيْتُمْ أَنْ تُفْسِدُوا فِي الْأَرْضِ

Sahih International: So would you perhaps, if you turned away, cause corruption on earth and sever your [ties of] relationship?

The future past, used with the modal ‘would’, is used in the example translations for the main clause as the example above.

- The present perfect tense, used with adverbs such as ‘wherever’, ‘whether’, ‘just now, etc., is used the most in the example translations to translate the adverbs such as **اليوم** *al-yawma* ‘this day’ and **الْآنَ** *al-āna* ‘now’. These adverbs express that an action has already happened and that it is very close to the moment of speaking, as in:

  48.

ٱلۡـَٰٔنَ خَفَّفَ ٱللَّهُ عَنكُمۡ وَعَلِمَ أَنَّ فِيكُمۡ ضَعۡفٗاۚ فَإِن يَكُن مِّنكُم مِّاْئَةٞ صَابِرَةٞ يَغۡلِبُواْ مِاْئَتَيۡنِۚ وَإِن يَكُن مِّنكُمۡ أَلۡفٞ يَغۡلِبُوٓاْ أَلۡفَيۡنِ بِإِذۡنِ ٱللَّهِۗ وَٱللَّهُ مَعَ ٱلصَّـٰبِرِينَ ٦٦

الْآنَ خَفَّفَ اللَّهُ عَنْكُمْ

Sahih International: Now, Allah has lightened [the hardship] for you, and He knows that among you is weakness. So if there are from you one hundred [who are] steadfast, they will overcome two hundred. And if there are among you a thousand, they will overcome two thousand by permission of Allah. And Allah is with the steadfast.

49.

حُرِّمَتْ عَلَيْكُمُ الْمَيْتَةُ وَالدَّمُ وَلَحْمُ الْخِنزِيرِ وَمَا أُهِلَّ لِغَيْرِ اللَّهِ بِهِ وَالْمُنْخَنِقَةُ وَالْمَوْقُوذَةُ
وَالْمُتَرَدِّيَةُ وَالنَّطِيحَةُ وَمَا أَكَلَ السَّبُعُ إِلَّا مَا ذَكَّيْتُمْ وَمَا ذُبِحَ عَلَى النُّصُبِ وَأَن
تَسْتَقْسِمُوا بِالْأَزْلَامِ ذَٰلِكُمْ فِسْقٌ الْيَوْمَ يَئِسَ الَّذِينَ كَفَرُوا مِن دِينِكُمْ فَلَا تَخْشَوْهُمْ
وَاخْشَوْنِ الْيَوْمَ أَكْمَلْتُ لَكُمْ دِينَكُمْ وَأَتْمَمْتُ عَلَيْكُمْ نِعْمَتِي وَرَضِيتُ لَكُمُ الْإِسْلَامَ
دِينًا فَمَنِ اضْطُرَّ فِي مَخْمَصَةٍ غَيْرَ مُتَجَانِفٍ لِّإِثْمٍ فَإِنَّ اللَّهَ غَفُورٌ رَّحِيمٌ ﴿٣﴾

الْيَوْمَ يَئِسَ

الْيَوْمَ أَكْمَلْتُ

Sahih International: Prohibited to you are dead animals, blood, the flesh of swine, and that which has been dedicated to other than Allah , and [those animals] killed by strangling or by a violent blow or by a head-long fall or by the goring of horns, and those from which a wild animal has eaten, except what you [are able to] slaughter [before its death], and those which are sacrificed on stone altars, and [prohibited is] that you seek decision through divining arrows. That is grave disobedience. This day those who disbelieve have despaired of [defeating] your religion; so fear them not, but fear Me. This day I have perfected for you your religion and completed My favor upon you and have approved for you Islam as religion. But whoever is forced by severe hunger with no inclination to sin - then indeed, Allah is Forgiving and Merciful.

6.2. Research Question 2

The following points represent the main similarities and differences based on the results of this research:

The similarity will be listed first, and the differences will be listed second.

1) English has multiple grammatical class forms for tense and aspect. Arabic has only two aspectual verbs: perfect and imperfect. However, similar to English, there are many ways to express tenses in Arabic as well as (sub-)classes of tenses, which contain the habitual, generic, progressive and predictive (all of which depend on the context in which they are used). In both languages, auxiliary verbs, condition particles, time adverbs and some contextual linguistic features can be used to add new meaning in terms of time and event evolution through time, such as indicating the meaning of possibility, ‘near/close to happening’ or denying the happening of the action at all.

Particles, auxiliary verbs and time adverbs can be used with the perfect and imperfect aspects to divide actions into different tenses or aspects like English. The following are examples of this.

- Semantically and syntactically, morphological linguistics in Arabic is used to show whether the action happens at a specific point of time or the action is repeated or continuous.

- The Arabic imperfect aspect can be used to convey the present continuous (when an action takes a long time to complete or has a continuous effect).

- The Arabic imperfect aspect can be used for an activity that is happening at the moment of speaking.

- The Arabic imperfect aspect can be used to refer to scheduled actions or plans using the prefix *sa-*. This is confirmed by Gadalla (2006).

- The Arabic imperfect aspect can be used to express habitual action (something happens regularly or constantly).

- Based on grammatical rules, the Arabic imperfect aspect can be used to refer to an action that has happened in the past when it is used with the prefix ’*iḏ*, which is typically used to indicate past tense.

- The Arabic imperfect aspect can be used to indicate future action if it contains the emphatic prefix *lām*, which is typically used to indicate future tense.

- The Arabic imperfect aspect can be used to indicate an action repeated over a period in the past which is continuing in the present and/or will continue in the future. In English, this is the present perfect continuous. For example:

  لا يزال المطر يهطل منذ الساعة الثانية عشرة ظهراً

  It has been raining since twelve in the afternoon

- The Arabic imperfect aspect can sometimes be used in context to express the future, past and present tense or aspect classes without the use of particles or auxiliaries e.g., habitual events, generic, truth.

- The Arabic imperfect aspect sometimes does not describe an action relating to time but is solely a description of the situation e.g., when it is used to indicate action that is general or usually happens all the time.

- The perfect aspect can be used to indicate action in the past, present and future based on where the verb is used.
- The perfect aspect indicates an action that happened in the near or distant past.

- The perfect aspect can be used to express an action that has already happened and that is very close to the moment of speaking using time adverb such as الْآنَ *al-āna* 'now' and آنفاً *ānifan* 'just now'.

- The perfect aspect can be used to indicate an action that happened in the distant past and was followed by another action in the past.

- The Arabic *yaqūlu* 'he says' can be used with auxiliary verbs similar to English auxiliary verbs. For example, *kāna yaqūlu* 'he was saying' is parallel to the English past progressive. The auxiliary verb *kāna* can be used to mark tense, and the main verb *yaqūlu* marks the imperfect aspect; the combination of the auxiliary and imperfect aspect produces the sense of past progressive. Al-Aqarbeh (2011), as cited in El-Sadek (2014), states that 'Jordanian Arabic verbs encode only the aspect and not tense, and absolute tense is established in the context as a pragmatic implicature', [55] while in English, different verb structures using inflectional morphology structures, such as is/are + -ing or was/were + -ing, can be used to indicate that the action is still in progress in the present or past tenses (Bolton and Kachru, 2006). Selection of the appropriate tense and aspect in English for a single aspect in Arabic may be facilitated by paying attention to the context in which a particular Arabic aspect occurs.

  The following can be decided regarding the different translations used to translate Qur'anic verb aspects in different contexts:

a. The recent past **قد فعل** *qad fa'ala* and the past that concludes in the present **الماضي المنتهي بالحاضر** (Ḥasān, 1994) can be expressed by the perfect present tense in

55 'Implicature' is defined in the Cambridge dictionary as something that is implied by a speaker; an expression or a sentence beyond the literal sense of what is explicitly stated (for example: saying the dress is very nice and implying that I don't really like the design of it).

English. To confirm what has/had happened, particularly in the context of stories, **تأكيد الماضي البعيد** can be expressed through the perfect past/present tense in English.

b. An action that continues in the past is in the **كان يفعل: الماضي المستمر** *kāna yafʿalu* 'imperfect' tense [56] (Tawāmah, 1994). This creates a vivid description, like a moving image in front of the reader/listener, especially in the context of stories. The form **كان يفعل** *kāna yafʿalu* can be expressed in English by the past continuous tense.

c. To negate a past action, the construction **لم يفعل** *lam yafʿal* (*lam* + imperfect in the jussive mood) can be used: in English, this can be translated by the simple past tense + 'not'. The form *lam yafʿal* can be used to negate an action in the future in a conditional sentence; this can be expressed in English by the present simple tense and the future simple tense + 'not' depending on context. The form *lam yafʿal* can be used to negate a past action that continues until the moment of speaking **الماضي المتصل بزمن المتكلم** (Muḥammad, 2015, p.24); in English, this can be expressed by the present perfect tense+'not'.

d. The Arabic verb aspect states the location of an action or an event in time. For instance, when an action has just happened, as indicated by the time adverb **الآن** 'now' close past **الماضي المقارب**, the present perfect tense is used in English translation to indicate that meaning. Arabic aspects also indicate the sense of the near future **المستقبل القريب**, distant future **المستقبل البعيد** and limited future **المستقبل المقيد** using particles, auxiliary verbs, time adverbs, and so on. This confirms Gadalla's (2006, p.244) observation: 'Certain verbs such as **كان** *kāna* 'to be' and . . . certain particles such as **قد** *qad* 'already' combine with these two aspects of the verb to convey various meanings.' In contrast, aspectual classes, such as the simple, progressive, perfect and perfect progressive, are used in English, as the translations show.

e. In the case of shifting from the perfect to imperfect aspect to express the sense of movement actions, rhetorical purpose, the simple past tense, the present perfect tense and the present simple tense are used to translate the perfect aspect, although the present simple tense is used most often. The present simple tense is mostly used in the case of shifting from the imperfect aspect to the perfect or vice versa

[56] In Arabic, it is also called الماضي الاعتيادي and in France, the 'imparfait' tense (Tawāmah, 1994). It is the tense used to indicate a continuous, repeated, habitual or incomplete action in the past.

for rhetorical purposes, such as the following:

- To state that the action should be stopped, a warning sense ‘disbelief’, while, in contrast, the other action using the imperfect aspect should be repeated: ‘belief’ and thanks’.
- To state that the action still happens while the other action has already stopped, as in **يمسكون الكتاب** ‘hold the book’ (imperfect aspect) and **أَقَامُوا الصلاة** ‘they (m.) established prayer’ (perfect aspect) (Chapter 6, Section 6.4.1.).
- To remind that the action has been done once or a little before, while the other action using the imperfect aspect would be the same but broader.
- To state that the action is going to happen in the future, bringing to mind the image of the action by clarifying it as it had happened in the past already.
- To draw attention to the significance of the action itself (see examples, Chapter 6, Section 6.4.1).

2) Parallel to English, Qur’anic Arabic verb aspects are used to indicate both time (‘absolute’ or ‘relative’) and action. The progressive and perfect tenses are expressed by the imperfect aspect, which could also express absolute and relative past/future tenses depending on the linguistic context. The imperfect aspect can be used to express actions related to a reference point in the past, present or future, relative to the moment of speaking, or to a reference point provided by the context but not related to the present time using direct speech **(جملة مقول القول)**; for example, **عندما زيد يقول: محمد سيقول أنه قد خرج منذ قليل** *sayagulu Muhammad inna-hu qad xaraja munḏu qalīl* ‘if Zaid says, “Muhammad will say he has left”’, a phrase in which the verb implies a reference point in the recent past that is related to the moment of the utterance of *Muhammad;* future, it not being essential here to know the present moment of Zaid’s present expression; this can be translated into English by the present perfect. For example, this is done with the phrase **محمد سيكون قد خرج** *Muhammad sa-yakuūu qad xaraj* ‘Muhammad will have left’, when the reference point is in the future relative to the speaking time; *Muhammad*’s leaving happened before that point. The tense here, therefore, reflects the time of speaking and the reference point of action. The previous example can be translated into English using the future perfect. In the case of the future-in-the-past translation, the action is located in the future relative to the reference point in the past; for example, **محمد سيكون قد عاد لاحقاً إلى الحفلة** *Muhammad sa-yakūnu qad āda lāḥiqan ilā al-ḥaflah* ‘Muhammad would later turn to the party’. The meaning here indicts that the

meaning that happened in the past distance he cation could be occurred in the distant past.

In the data of the Qur'an, a combination of tenses are used in the verses to preserve the absolute tense of the verb using the linguistic context, such as particles. The two aspects **فعل**, **يفعل** are used to indicate the absolute tense. The verb structure using, for example, the phrase construction **وَأَنْ عَسَىٰ أَنْ يَكُونَ قَدِ اقْتَرَبَ** is used to talk about an action that is happening in the present; the moment of speaking is relative to the reference point in the distant or recent past. Rašīd (2010) discusses this relationship between time and action in Arabic, calling it **علاقة اقتران زماني** 'time connection'; between the moment of speaking and the relative action in the past or future. He also discusses the use of conditional particles to express this connection in conditional sentences, such as: *lamā waṣiltu kāna al-qiṭār qad taḥarraka* **لما وصلت كان القطار قد تحرك** 'When I arrived, the train had moved' (p.244). In the Sahih International translation, for example, the entire verse shows how the tenses place the condition in the past relative to the reference point – the present perfect– thus referring to an action that has started.

Consider the following example from the Qur'anic Arabic corpus:

The action that had happened before another action in the past using the past perfect; the expressing of your current feelings about a past decision (or other action) whish is relative to the present moment of speaking: *in kuntu qultuhu* **إِنْ كُنْتُ قُلْتُهُ** 'if I had said it' is relative to another action in the past: *faqad 'alimtahu* **فَقَدْ عَلِمْتَه** 'you would have known it':

وَإِذْ قَالَ ٱللَّهُ يَٰعِيسَى ٱبْنَ مَرْيَمَ ءَأَنتَ قُلْتَ لِلنَّاسِ ٱتَّخِذُونِى وَأُمِّىَ إِلَٰهَيْنِ مِن دُونِ ٱللَّهِ ۖ
قَالَ سُبْحَٰنَكَ مَا يَكُونُ لِىٓ أَنْ أَقُولَ مَا لَيْسَ لِى بِحَقٍّ ۚ إِن كُنتُ قُلْتُهُۥ فَقَدْ عَلِمْتَهُۥ ۚ تَعْلَمُ
مَا فِى نَفْسِى وَلَآ أَعْلَمُ مَا فِى نَفْسِكَ ۚ إِنَّكَ أَنتَ عَلَّٰمُ ٱلْغُيُوبِ ﴿١١٦﴾

إِنْ كُنْتُ قُلْتُهُ فَقَدْ عَلِمْتَهُ

Sahih International: And [beware the Day] when Allah will say, "O Jesus, Son of Mary, did you say to the people, 'Take me and my mother as deities besides Allah ?'" He will say, "Exalted are You! It was not for me to say that to which I have no right. If I had said it, You would have known it. You know what is within myself, and I do not know what is within Yourself. Indeed, it is You who is Knower of the unseen.

In the conversation between the man who was among Aziz's family, the construction here links the current action **فَكَذَّبَتْ** *fa-kaḏḏabat* 'she has lied' to the relative past: *wa-in kāna qamīṣuhu qudda min duburin* **وَإِنْ كَانَ قَمِيصُهُ قُدَّ مِنْ دُبُرٍ** 'if his shirt is torn':

وَإِن كَانَ قَمِيصُهُۥ قُدَّ مِن دُبُرٍ فَكَذَبَتْ وَهُوَ مِنَ ٱلصَّٰدِقِينَ ﴿٢٧﴾

The same meaning can be found in the following verses:

وَإِنْ كَانَ قَمِيصُهُ قُدَّ مِنْ دُبُرٍ فَكَذَبَتْ

Sahih International: But if his shirt is torn from the back, then she has lied, and he is of the truthful."

The construction uses the imperfect aspect; the present action receives a relative clarification using the present or past perfect (near or distance past)+ *qad*. The example shows that the disbelievers' appointed time may occur in the present, but had/has already started in the near past.

أَوَلَمْ يَنظُرُوا۟ فِى مَلَكُوتِ ٱلسَّمَٰوَٰتِ وَٱلْأَرْضِ وَمَا خَلَقَ ٱللَّهُ مِن شَىْءٍ وَأَنْ عَسَىٰٓ أَن
يَكُونَ قَدِ ٱقْتَرَبَ أَجَلُهُمْ ۖ فَبِأَىِّ حَدِيثٍۭ بَعْدَهُۥ يُؤْمِنُونَ ﴿١٨٥﴾

وَأَنْ عَسَىٰ أَنْ يَكُونَ قَدِ اقْتَرَبَ

Sahih International: Do they not look into the realm of the heavens and the earth and everything that Allah has created and [think] that perhaps their appointed time has come near? So in what statement hereafter will they believe?

In the following example, there is also a link between events, as the past action **قَالَ** *qāla* 'said' links to another action that happened before it **أَلَمْ أَقُلْ لَكُمْ** *a-lam aqul lakum* 'did I not tell you that':

قَالَ يَٰٓـَٔادَمُ أَنۢبِئْهُم بِأَسْمَآئِهِمْ ۖ فَلَمَّآ أَنۢبَأَهُم بِأَسْمَآئِهِمْ قَالَ أَلَمْ أَقُل لَّكُمْ إِنِّىٓ أَعْلَمُ غَيْبَ
ٱلسَّمَٰوَٰتِ وَٱلْأَرْضِ وَأَعْلَمُ مَا تُبْدُونَ وَمَا كُنتُمْ تَكْتُمُونَ ﴿٣٣﴾

قَالَ أَلَمْ أَقُلْ لَكُمْ إِنِّي أَعْلَمُ غَيْبَ السَّمَاوَاتِ وَالْأَرْضِ

Sahih International: He said, "O Adam, inform them of their names." And when he had informed them of their names, He said, "Did I not tell you that I know the unseen [aspects] of the heavens and the earth? And I know what you reveal and what you have concealed."

In the following points, the differences between the two languages will be discussed:

3) Inflectional verbal morphology distinguishes between a suffix conjugation and a prefix conjugation in Arabic, which are generally referred to by linguists as the 'perfect' and 'imperfect' aspects. Arabic aspects do not use verb conjugations to locate the action in time or indicate how an event or action is to be observed concerning time. For example, the prefix in the imperfect *ya-qūlu* could be used to indicate present simple tense, but it could also indicate the past or present progressive depending on the context.
4) To locate an action in time in English or signify how an action is to be observed regarding time, several morphological characters are used to mark a verb inflectionally. These types of inflectional characters are used to mark past tense (-ed), non-past tenses or the sub-classes of aspect, such as the progressive tense (-ing). Tucker (2010) confirms this by suggesting that English tenses do not follow the same patterns as Arabic tenses. Expressing the notion that 'someone is walking now' is not possible in Arabic using a verbal formula as English does. A non-verbal term, such as an adverb of time, is required to categorically state that an action is taking place at that moment (Abed, 1991, p.119).
5) Also, an issue discussed in the examples translated using Google Translate is that Arabic differs from English in its use of pronouns to denote number, person and gender; these occur in Arabic through verbs by which pronouns are added either at the beginnings of verbs or at their ends (the paper that used in this experiment can be found in Appendix E).

.3. Research Question 3

This thesis outlines strategies that might be useful to consider in Qur'anic translation. The data revealed by the study requires some reconsideration of the questions originally posed. I find these strategies relevant both for human translation and machine translation, but the benefits for each cannot be distinct. As machine translation research has revealed, there are complex shifts in syntax, agreement, anaphora, etc., such as the ones exemplified in this thesis that do not require complex human processing but can be problematic for machine translation. This point led me to conduct an independent experiment using Google

Translate. I selected several examples of Modern Standard Arabic from the study of Alasmari et al. (2017), which had concluded that critical knowledge must be followed both in human translation and machine translation. Some of that knowledge is discussed by Michalski (2009) in his machine translation discussion.

The results of the Google Translate experiment are unique regarding what rules each translator chose to follow. As previously indicated, the translators not only include any Arabic text translation but also make the importance of that text, especially evident in the translation of the Qur'an. This decision can mainly be attributed to the contextual and rhetorical specificity that distinguishes the Qur'an from any other text.

The pieces of knowledge of the source language in semantics, grammar and morphology are:

- The knowledge of the target language in semantics, grammar and morphology
- Information useful to understand the subject more accurately
- Understanding of the correlation between the events of the translated subject (e.g. if one action happened a long time before another action, if the action is a repeated action, or if the following action is happening as a result of another action)
- Understanding of the subject in terms of historical background (e.g. the subject's position in the context of a story or conversation that occurred in the past). It is essential to study the history of a subject's context, including the transformation and development that took place via relevant events over time. The study of event history enables us to recognise how past action affects present action and influences future actions.

Based on translation output alone, it is difficult to envisage what is challenging from a translator's perspective. Translators' experiences need to be explored. The assumption that systemic differences between the two languages will inevitably result in challenges for human translators is rather simplistic. Also simplistic is the assumption that diversity in translation choices signals difficulty. Though this assumption may well be true (particularly in machine translation), it does not necessarily apply in all cases, particularly in sensitive contexts such as Qur'anic translation.

This thesis proposes some strategies which may help both human and machine translators face the challenges posed by tasks involving differences at the tense and aspect levels as well as other syntactic and morphological structural differences between the two languages.

Seminal contributions to this area have been made by scholars such as Shamaa (1978), for example, who argues that Arabic verbs have an aspectual system rather than a temporal reference that makes translation into a tense-based system more difficult; he asserts the importance of recognising the context of a verb to understand if an action is completed or in progress, habitual or temporary, etc., to convey the original meaning as faithfully as possible. Gadalla (2006) also argues for the importance of understanding context, which helps the translator to recognise the sense of each form and to convey it; ultimately, this is the aim of translation. Larson similarly highlights the significance of meaning in translation: 'To do effective translation one must discover the meaning of the source language and use receptor language forms which express this meaning in a natural way' (1984, p. 6 as cited in Gadalla, 2006, p. 53).

The examples presented below do not necessarily illustrate inconsistencies between translators. So perhaps there are no differences at all, but what is meant here is to discuss difficulties translators may face in the Quranic context, especially given that the Quran's nature differs from that of any other Arabic text. It is clarified that this study contained qualitative research of some translation models used to translate some Qur'anic contexts and analyzing the contextual linguistic features that the translator used to translate the Qur'an to consider the importance of studying the context of each translation separately and putting the results in their context, even if this study did not deal with each translation separately. Still, in some contexts, it studied the different translations used to translate the context, as is evident in this chapter by exploring the different translations used to translate the various contextual cases that must be taken into account when translating the Qur'an.
The following specific cases of the verb system could be considered in the translations of Qur'anic tense and aspect. These cases are presented more in machine translation that requires human interventions.

6.4.1. *The importance of studying the incompatibility between the subject and the verb in the context*

The use of a specific word with the suffixes and prefixes of its inflexion is based on a specific requirement of the event described in the context. Person, number, gender, mood, voice and tense, inflectional grammatical categories in Arabic are critical features. Therefore, by looking at the events and their syntactical relations, a range of specific words can be determined. Conjugated English verbs (inflected by the elements of the person, number, gender, etc.) used to translate the imperfect aspect of *qāla* can also be expressed using affixation. English inflects verbs to mark the third person singular present simple by adding -s to the end of the verb (White, 2003). Consider the following analysis of English translations using the Lancsbox tool:

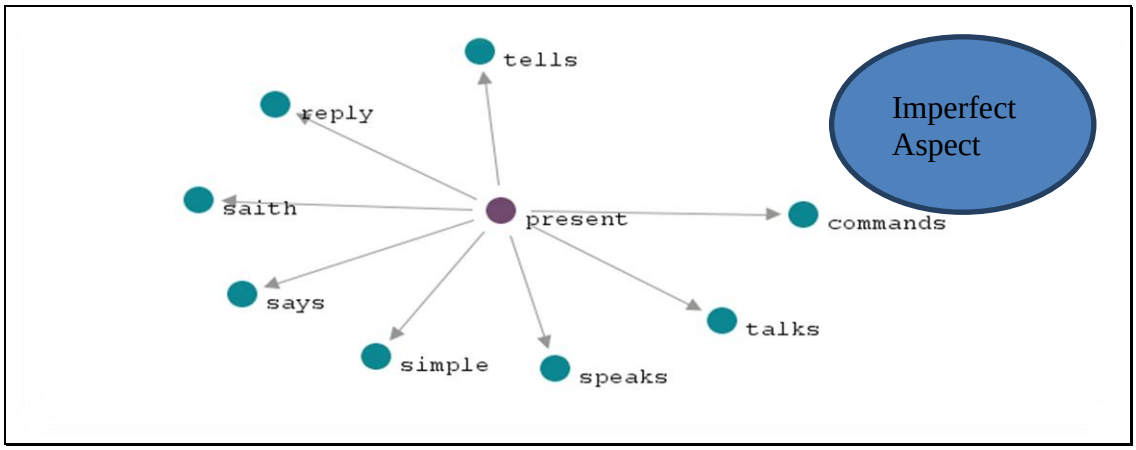


Figure 6.1 The Arabic imperfect aspect in example translations into English showing the use of inflexion morphology to indicate third-person singular present simple

The analysis shows different variations that can be used to translate the bare imperfect aspect, while the present simple tense with -s is the most agreement translation, as the above figure shows. However, English verbs are not as highly inflected as Arabic verbs. The 'apparent and hidden systems of pronouns' **الضمائرالمستترة والظاهرة** do not exist in English. The pronouns **أنتما, أنتم, أنتن** 'you' of the dual/plural male and female do not exist in English, for which the pronoun 'you' is used for male or female dual/plural. This may pose difficulties and result in differences for some translators. The statistical analysis shows that the Arabic imperfect aspect of the verb *yaqūlu* is translated into English variously as 'say', 'said', 'used to say', 'may say', 'will say', 'says', 'has been saying', 'shall say', etc. Table 6.2 and Table 6.3 illustrate the different translations of the verb **يَقُولُ** *yaqūlu,* 'he says', which indicates the third person masculine singular/plural imperfect verb.

Table 6.2 The Sahih International translation of the imperfect aspect **يقول** *yaqūlu* 'to say.'

Per cent	Frequency	60 Examples	Sahih International
1.69%	1	it is said	Valid

1.69%	1	has been saying	
1.69%	1	mentions	
1.69%	4	said	
8.47%	11	say	
30.51%	17	says	
13.56%	22	will say	
1.69%	2	would say	

Table 6.3 Yusuf Ali translation of the imperfect aspect **يقول** *yaqūlu* 'to say.'

Per cent	Frequency	60 Examples	Yusuf Ali
1.69%	1	could only say	Valid
1.69%	1	may say	
1.69%	1	shall say	
1.69%	1	said	
8.47%	5	saith	
30.51%	18	say	
13.56%	8	says	
1.69%	1	talks	
1.69%	1	tells	
3.39%	2	used to say	

The tables highlight differences between the two translations of the verb **يَقُول** *yaqūlu* 'he says'. A problem that arises in translations from Qur'anic Arabic into English is the use of pronouns. (See Chapter 5, Section 5.1. Tables 5.3 and 5.4). In this regard, consider the following examples in context:

Table 6.4 The use of the imperfect verb to indicate different numbers (singular, plural) and their translations

The verses	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
فَمِنَ النَّاسِ مَنْ يَقُولُ رَبَّنَا آتِنَا فِي الدُّنْيَا وَمَا لَهُ فِي الْآخِرَةِ مِنْ خَلَاقٍ	says	saith	say	say	say	say	say
وَمِنْهُمْ مَنْ يَقُولُ رَبَّنَا آتِنَا فِي الدُّنْيَا حَسَنَةً وَفِي الْآخِرَةِ حَسَنَةً	says	saith	say	say	pray	say	say

In these examples, the verb translations in terms of subjects or pronoun numbers (plural, singular) are different. In the first example, Sahih International uses the singular present simple tense to translate the verb, while others use the plural. The first example to be discussed is the following:

50.

فَإِذَا قَضَيْتُم مَّنَاسِكَكُمْ فَاذْكُرُوا اللَّهَ كَذِكْرِكُمْ آبَاءَكُمْ أَوْ أَشَدَّ ذِكْرًا ۗ فَمِنَ النَّاسِ مَن يَقُولُ رَبَّنَا آتِنَا فِي الدُّنْيَا وَمَا لَهُ فِي الْآخِرَةِ مِنْ خَلَاقٍ ﴿٢٠٠﴾

فَمِنَ النَّاسِ مَنْ يَقُولُ رَبَّنَا آتِنَا فِي الدُّنْيَا وَمَا لَهُ فِي الْآخِرَةِ مِنْ خَلَاقٍ

Sahih International: And when you have completed your rites, remember Allah like your [previous] remembrance of your fathers or with [much] greater remembrance. And among the people is he who says, "Our Lord, give us in this world," and he will have in the Hereafter no share.

Yusuf Ali: So, when ye have accomplished your holy rites, celebrate the praises of Allah, as ye used to celebrate the praises of your fathers - yea, with far more Heart and soul. There are men who say: "Our Lord! Give us (Thy bounties) in this world!" but they will have no portion in the Hereafter.

In the context of this example, Ḥasan (1975) suggests the possibility that the verb may indicate different subjects (singular or plural) based on the meaning of the context of the related form. The masculine singular relative pronoun من *man*, 'the one who', may be followed by a single masculine subject *yaqūlu*, 'he says', as is the case in the verse, depending on the singular pronoun form من *man* 'the one who' itself. The singular pronoun form من *man* is the literal meaning of men[57]. Alternatively, it may be followed by the plural subject depending on the meaning of the pronoun in the context, as it is used to indicate the plural 'people' with the first-person plural possessive pronoun in 'Our Lord, give us'. There are further examples that show the disagreement between the translations regarding the use of pronouns, such as:

51.

[57] Grammatical rule based on the relative form. In this regard, Al-Sīwṭī (N.d.) asserted that pronouns should follow the associated form in the context before the context meaning.

يَوْمَ يَجْمَعُكُمْ لِيَوْمِ الْجَمْعِ ذَٰلِكَ يَوْمُ التَّغَابُنِ ۗ وَمَن يُؤْمِنۢ بِاللَّهِ وَيَعْمَلْ صَٰلِحًا يُكَفِّرْ عَنْهُ
سَيِّـَٔاتِهِۦ وَيُدْخِلْهُ جَنَّٰتٍ تَجْرِى مِن تَحْتِهَا ٱلْأَنْهَٰرُ خَٰلِدِينَ فِيهَآ أَبَدًا ۚ ذَٰلِكَ ٱلْفَوْزُ
ٱلْعَظِيمُ ﴿٩﴾

وَمَنْ يُؤْمِنْ بِاللَّهِ وَيَعْمَلْ صَالِحًا

Table 6.5 The use of the imperfect verb to indicate different numbers (singular, plural) and their translations

The verses	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
وَمَنْ يُؤْمِنْ بِاللَّهِ وَيَعْمَلْ صَالِحًا يُدْخِلْهُ جَنَّاتٍ	believes	believe	believe	believe	to bring the righteously striving believers out of darkness into light.	believe	believe

Sahih International: The Day He will assemble you for the Day of Assembly - that is the Day of Deprivation. And whoever believes in Allah and does righteousness - He will remove from him his misdeeds and admit him to gardens beneath which rivers flow, wherein they will abide forever. That is the great attainment.

Yusuf Ali: The Day that He assembles you (all) for a Day of Assembly,- that will be a Day of mutual loss and gain (among you), and those who believe in Allah and work righteousness,- He will remove from them their ills, and He will admit them to Gardens beneath which Rivers flow, to dwell therein for ever: that will be the Supreme Achievement.

6.4.2. *The importance of detailed contextual analysis in the case of choosing between aspects*

The analysis of the Qur'anic context shows that one verbal aspect is sometimes replaced by another aspect to ensure that the reader or listener fully understands the context. In their discussion of the challenges of Arabic translation, Ali et al. (2012, p. 588) suggest that the Qur'anic meaning is the driving force for the shift between the two aspects:

> This shift is for the purpose of conjuring an important action in the mind as if it were happening in the present. Tenses, in Arabic or in the Holy Qur'an cannot be conveyed literally. In some cases, they need to shift to convey the intended meaning to the target audience.

The scholars (Ali et al., 2012) also highlight the following example and its translations in their discussion of shifting between aspects to show how the process can pose problems for the translator:

(إِذْ جَاءُوكمْ مِنْ فَوْقِكُمْ وَمِنْ أَسْفَلَ مِنْكُمْ وَإِذْ زَاغَتِ الأَبْصَارُ وَبَلَغَتِ
الْقُلُوبُ الْحَنَاجِرَ وَتَظُنُّونَ بِاللَّهِ الظُّنُونَا) (الاحزاب: 10)

Behold! They came on you from above you and from below you, and behold, the eyes became dim, and the hearts gaped up to the throats, and ye imagined various (vain) thoughts about Allah! (Yusuf Ali's Translation, 2000) (Al-Aḥzāb 33:10) The verbs (جاءوكم) 'comes against you', (زاغت) 'grew wild' and (وبلغت) 'reached' are in the past tense, but the verb (وتظنون) 'think' shifts to the present tense.

Here some examples of cases of shifting between Qur'anic aspects and their translations:

- *Shifting from perfect aspect to imperfect aspect*

52.

أَلَمْ تَرَ أَنَّ ٱللَّهَ أَنزَلَ مِنَ ٱلسَّمَآءِ مَآءً فَتُصْبِحُ ٱلْأَرْضُ مُخْضَرَّةً ۗ إِنَّ ٱللَّهَ لَطِيفٌ
خَبِيرٌ ﴿٦٣﴾

أَلَمْ تَرَ أَنَّ اللَّهَ أَنْزَلَ مِنَ السَّمَاءِ مَاءً فَتُصْبِحُ الْأَرْضُ مُخْضَرَّةً

Sahih International: Do you not see that Allah has sent down rain from the sky and the earth becomes green? Indeed, Allah is Subtle and Acquainted.

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
أَلَمْ تَرَ أَنَّ اللَّهَ أَنْزَلَ مِنَ السَّمَاءِ مَاءً فَتُصْبِحُ الْأَرْضُ مُخْضَرَّةً	has sent down, becomes	sendeth down, becometh	sends down, becomes	sends down, becomes	has sent, and has made	sends down, becomes	has sent down, becomes

Here there is a shift from the perfect aspect أَنْزَلَ 'sent' to the imperfect aspect فَتُصْبِحُ 'becomes', while the perfect aspect أصبح 'become, has become' is the exceptional aspect to come after the perfect aspect أَنْزَلَ 'sent'. Based on the interpreter's understanding, such as that of Al-Rāzī (2004), while using the imperfect aspect there is a way to express the longevity of the action's effect (that the rain had already ended), and that its impact

remained, and the earth is still green. Shifting here is used for the rhetorical purpose of showing happiness and reminding people that their means of support will be permanent (Ibn Al-Aṯīr, 1983). It should be considered that different translations are used to translate the verbs, and the present simple tense is the most frequently used to translate the perfect aspect أَنْزَلَ ‘sends’, connecting the events.

Another example here shows where the shift from the perfect to imperfect aspect occurs:

53.

وَإِذْ قَالَت طَّآئِفَةٌ مِّنْهُمْ يَٰٓأَهْلَ يَثْرِبَ لَا مُقَامَ لَكُمْ فَٱرْجِعُواْ ۚ وَيَسْتَـْٔذِنُ فَرِيقٌ مِّنْهُمُ ٱلنَّبِىَّ
يَقُولُونَ إِنَّ بُيُوتَنَا عَوْرَةٌ ۛ وَمَا هِىَ بِعَوْرَةٍ ۛ إِن يُرِيدُونَ إِلَّا فِرَارًا ﴿١٣﴾

وَإِذْ قَالَتْ طَائِفَةٌ مِنْهُمْ وَيَسْتَأْذِنُ فَرِيقٌ مِنْهُمُ النَّبِيَّ يَقُولُونَ إِنَّ بُيُوتَنَا عَوْرَةٌ

Sahih International: And when a faction of them said, “O people of Yathrib, there is no stability for you [here], so return [home]”. And a party of them asked permission of the Prophet, saying, “Indeed, our houses are unprotected,” while they were not exposed. They did not intend except to flee.

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
وَيَسْتَأْذِنُ فَرِيقٌ مِنْهُمُ النَّبِيَّ يَقُولُونَ إِنَّ بُيُوتَنَا عَوْرَةٌ	asked, saying	sought, saying	ask, saying	asked, saying	asking, said	ask, saying	asking, saying

Different translations are used to translate the verb **يستأذن**‘they (m.) ask for permission’ that occurs after the perfect aspect **قالت**‘she said’. Some of the translations translate the imperfect aspect into the past tense ‘asked, sought’, and others use the present tense ‘ask’ and the present participle ‘asking’; however, the present participle ‘saying’ is the most used in the translations of the imperfect aspect **يقولون**‘they (m.) say’. Ibn ʿĀšūr (n.d.) discusses the rhetorical expression of using the imperfect aspect after the perfect aspect in this example that the imperfect aspect here is used to carry the meaning that “a part of them” always repeat their permission.[58] The use of the imperfect aspect here helps to indicate the

[58] For more details, see the website ‘quran7m.com’: http://www.quran7m.com/searchResults/033013.html

conception of repeated action, and, using the expression of movement action, invites readers to use their imagination, mainly when focusing on the context; this can help to allow for a better understanding of issues, ideas and history, as well as of concepts such as creation, hell, heaven, etc. (Ibn ʿĀšūr, n.d.). The following example shows the shifting between aspects to highlight the intended meaning of the verbs in the verse, however, there is no different in the translations:

54.

وَٱللَّهُ ٱلَّذِيٓ أَرۡسَلَ ٱلرِّيَٰحَ فَتُثِيرُ سَحَابٗا فَسُقۡنَٰهُ إِلَىٰ بَلَدٖ مَّيِّتٖ فَأَحۡيَيۡنَا بِهِ ٱلۡأَرۡضَ بَعۡدَ مَوۡتِهَاۚ كَذَٰلِكَ ٱلنُّشُورُ ٩

وَاللَّهُ الَّذِي أَرْسَلَ الرِّيَاحَ فَتُثِيرُ سَحَابًا فَسُقْنَاهُ إِلَىٰ بَلَدٍ مَيِّتٍ

Sahih International: And it is Allah who sends the winds, and they stir the clouds, and we drives them to a dead land and give life thereby to the earth after its lifelessness. Thus is the resurrection.

In the context of past events, we find that the Qur'anic context uses the perfect aspect **أَرْسَلَ** 'sent' to express past actions and then changed it to the imperfect aspect **فَتُثِيرُ**'stir'; the context then requires returning to the perfect aspect to signify past events: **فَسُقْنَاهُ** 'we drove' and **فَأَحْيَيْنَا** 'we revive'. The imperfect aspect in the context of past events has been used for the rhetorical purpose of presenting to the mind the picture of the movement of wind between the clouds (Al-Zamaxašrī, 1998). The aim here is to show the divine power of Allah in the management of the world, in a context in which actions must be united in time because there is a link among them using the CONJ-prefixed conjunction **ف** *fa*, 'and'.

The present simple tense is the most frequently used in the translations to translate the perfect aspect **أَرْسَلَ**'sends', while the present simple tense 'drive' is the most used in the translations to translate the perfect aspect **فَسُقْنَاهُ**.

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry

وَاللَّهُ الَّذِي أَرْسَلَ الرِّيَاحَ فَتُثِيرُ سَحَابًا فَسُقْنَاهُ إِلَىٰ بَلَدٍ مَيِّتٍ	sends, stir, drive	sendeth, raise, drive	sends, raise, drive	sends, raise, drive	sends, raise, drive	sends, raise up, drive	looses, stir up, drive

- *Shifting from the imperfect aspect to the perfect aspect*

In the Qur'an, shifting from the imperfect to the perfect aspect is found in many verses. In this regard, Al-Hatārī **(**2006**,** p. 22) explains that grammarians have pointed out a number of specific restrictions to the perfect aspect concerning the interpretation, saying that 'while some of the grammarians allow the perfect aspect to be followed by the imperfect aspect or vice versa, we find others who are going to interpret the perfect aspect in this case with the imperfect aspect to match context'. Al-Sīwṭī (as cited in Al-Hatārī 2006, p. 22), on the other hand, argues that it is possible to use the perfect aspect for the imperfect aspect and that the perfect aspect can take on the meaning of the imperfect aspect.

Additionally, Al-Hatārī (2006) describes some contemporary views that state that there is no link between the verb pattern and time in the case of shifting between aspects, especially in the Qur'an, where each word has been placed in its suitable location and time, so that when the perfect aspect is, for example, replaced by the imperfect aspect, Al-Hatārī (2006, p. 24) suggests that 'it is the approach for the rhetoricians in their search for connection and separation'. Al-ʿAlawī (1914) confirms that the shift from the imperfect aspect to the perfect aspect, in this case, indicates an overstatement of stability for the action. However, we find that Al-Hatārī (2006) disagrees with Al-ʿAlawī in this regard. Al-Hatārī acknowledges that the meaning of the verb is context-based.

Consider some examples that are used to indicate different connotations based on the context; the present simple tense is most used in the translation into English:

55.

وَٱلَّذِينَ يُمَسِّكُونَ بِٱلْكِتَٰبِ وَأَقَامُوا۟ ٱلصَّلَوٰةَ إِنَّا لَا نُضِيعُ أَجْرَ ٱلْمُصْلِحِينَ ﴿١٧٠﴾

وَالَّذِينَ يُمَسِّكُونَ بِالْكِتَابِ وَأَقَامُوا الصَّلَاةَ

Sahih International: But those who hold fast to the Book and establish prayer - indeed, we will not allow to be lost the reward of the reformers.

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
وَالَّذِينَ يُمَسِّكُونَ بِالْكِتَابِ وَأَقَامُوا الصَّلَاةَ	establish	establish	establish	keep up	are steadfast	perform	perform

It can be suggested that all seven translations translate the perfect aspect **أَقَامُوا** in the present tense to indicate the meaning of an uncompleted action 'establish', 'perform', or 'keep up'. A potential reason for the predominant use of the present tense in the translations might be that the verb after the CONJ-prefixed conjunction *wa* is connected to the previous imperfect aspect **يمسكون** 'hold'. However, differing contextual analyses for the verse are found: some of the interpreters (Al-Baġawī, 1989, Ibn Kaṯīr, 1999) explain that the imperfect aspect **يمسكون** 'hold' is used here based on the previous verse which talks about those believers of the Prophet Moses' book who have not distorted or concealed it, but who have been led to follow the Prophet Muhammad. The perfect aspect **أَقَامُوا** 'they (m.) established' is used to refer to the same people who hold the book of the Prophet Mūsā and who also believe in the Prophet Muhammad; they perform the prayer that Prophet Muhammad prescribes (Al-Baġawī,1989). The context here explains what is going to happen to those people in the future, depending on their past experiences and actions.

A second interpretation of the same verse, however, calls for a different interpretation for the use of the perfect aspect here: those believers of Prophet Mūsā's book ignored his method of praying at that time, but they still follow the teaching in his book, which approves the message of the Prophet Muhammad. Therefore, we find that the context is used to determine the action and whether it is complete or incomplete; this is based on the previous verses that address the talk about the people who believe in the distorted copy of the book of Prophet Mūsā (Al-Baqāʿī, 1984) in:

56.

فَخَلَفَ مِنۢ بَعۡدِهِمۡ خَلۡفٞ وَرِثُواْ ٱلۡكِتَٰبَ يَأۡخُذُونَ عَرَضَ هَٰذَا ٱلۡأَدۡنَىٰ وَيَقُولُونَ سَيُغۡفَرُ لَنَا
وَإِن يَأۡتِهِمۡ عَرَضٞ مِّثۡلُهُۥ يَأۡخُذُوهُۚ أَلَمۡ يُؤۡخَذۡ عَلَيۡهِم مِّيثَٰقُ ٱلۡكِتَٰبِ أَن لَّا يَقُولُواْ عَلَى ٱللَّهِ إِلَّا
ٱلۡحَقَّ وَدَرَسُواْ مَا فِيهِۗ وَٱلدَّارُ ٱلۡأٓخِرَةُ خَيۡرٞ لِّلَّذِينَ يَتَّقُونَۗ أَفَلَا تَعۡقِلُونَ ١٦٩

Sahih International: And there followed them successors who inherited the Scripture [while] taking the commodities of this lower life and saying, “It will be forgiven for us”. And if an offer like it comes to them, they will [again] take it. Was not the covenant of the Scripture taken from them that they would not say about Allah except the truth, and they studied what was in it? And the home of the Hereafter is better for those who fear Allah, so will you not use reason?

We find a third reading of the same verse provided by Ibn Masʿūd. The reading is **والذين استمسكوابالكتاب** ‘those who held to the Book’ (Al-Zamaxašrī, 1998). Ibn Masʿūd, as discussed by Al-Ḥatīb (2000/3), explains in that reading that holding the book is a habit that happens at all times, while prayer is set only at a particular time. Ibn Masʿūd explains that the previous meaning is explained by the verse **إِنَّ الصَّلَاةَ كَانَتْ عَلَى الْمُؤْمِنِينَ كِتَابًا مَوْقُوتًا** ‘prayer has been decreed upon the believers a decree of specified times’ (Sahih International translation). Al-Qurṭibī’s opinion is discussed in Al-Ḥatīb (2000) where we find him preferring to choose the first reading, in which he sees that the use of the imperfect aspect **يمسكون**, ‘they (m.) hold’, shows the meaning of repetition and continuity all the time.

Another example shows the shift from the imperfect aspect to the perfect aspect:

57.

وَلَقَدۡ ءَاتَيۡنَا لُقۡمَٰنَ ٱلۡحِكۡمَةَ أَنِ ٱشۡكُرۡ لِلَّهِۚ وَمَن يَشۡكُرۡ فَإِنَّمَا يَشۡكُرُ لِنَفۡسِهِۦۖ وَمَن كَفَرَ
فَإِنَّ ٱللَّهَ غَنِيٌّ حَمِيدٞ ١٢

فَإِنَّمَا يَشْكُرُ لِنَفْسِهِ وَمَنْ كَفَرَ فَإِنَّ اللَّهَ غَنِيٌّ حَمِيدٌ وَمَنْ يَشْكُرْ

Sahih International: And we had certainly given Luqman wisdom [and said], “be grateful to Allah.” And whoever is grateful is grateful for [the benefit of] himself. And whoever denies [His favour] - then indeed, Allah is free of need and Praiseworthy.

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
وَمَنْ يَشْكُرْ فَإِنَّمَا يَشْكُرُ لِنَفْسِهِ وَمَنْ كَفَرَ فَإِنَّ اللَّهَ غَنِيٌّ حَمِيدٌ	denies	refuseth	is ungrateful	is ungrateful	are ungrateful	is unthankful	is ungrateful

In the first example, we can see that all the translations use the present simple tense, as ‘is ungrateful’, ‘denies’, and ‘refuseth’ to translate the perfect aspect كفر ‘he did not believe’. Al-Hatārī (2006) argues that the imperfect aspect **يشكر** ‘he thanks’ is used in the context here to encourage somebody to do a favour, ‘whoever is grateful’; this is based on the previous context: ‘And we had certainly given *Luqmān* wisdom [and said], ‘Be grateful to Allah’. At the same time, the context expresses a warning concerning disbelief that includes the meaning of the urge to stop disbelief, ‘is ungrateful’, which is based on the following context:

58.

وَإِذْ قَالَ لُقْمَٰنُ لِٱبْنِهِۦ وَهُوَ يَعِظُهُۥ يَٰبُنَىَّ لَا تُشْرِكْ بِٱللَّهِ ۖ إِنَّ ٱلشِّرْكَ لَظُلْمٌ عَظِيمٌ ﴿١٣﴾

لا تُشرك باللهِ

Sahih International: And [mention, O Muhammad], when Luqman said to his son while he was instructing him, “O my son, do not associate [anything] with Allah. Indeed, association [with him] is a great injustice.”

The context is a discussion of belief, thanks and prohibited disbelief. In this case, the imperfect aspect is used to indicate that a repeated and continuous ‘thanks’ is required; the perfect aspect is then used to express that ‘disbelief’ should be stopped. The ‘thanks’ should be repeated with every blessing, as a permanent habit, while the ‘disbelief’ is something that happens once (Al-Hatārī, 2006). However, there is another reference that considers the

context from a grammatical perspective (Al-Sāmrā'ī, 2004): the syntactical analysis of the use of the perfect aspect **فمن كفر**'and whoever disbelieved' suggests that the perfect aspect indicates that the action is going to happen in the future; for example:

(إِذَا جَاءَ نَصْرُ اللَّهِ وَالْفَتْحُ)

'When will come the help of Allah'.

Al-Sāmrā'ī (2004/1, p. 94) explains the Qur'anic use of perfect aspect in a similar position to the condition construction following the perfect aspect+conditional structure contains imperfect or perfect through which the future meaning is indicated: 'from our follow-up to the Qur'anic expression, and we find that if the condition construction comes after the perfect aspect, this means the action is done once or a little, and what comes after the imperfect aspect, the action is repeated'.

Another example in which the perfect aspect is used is after the imperfect aspect. The two aspects provide the same meaning, but for a different purpose:

59.

يَسْـَٔلُونَكَ مَاذَا يُنفِقُونَ ۖ قُلْ مَآ أَنفَقْتُم مِّنْ خَيْرٍ فَلِلْوَٰلِدَيْنِ وَٱلْأَقْرَبِينَ وَٱلْيَتَٰمَىٰ
وَٱلْمَسَٰكِينِ وَٱبْنِ ٱلسَّبِيلِ ۗ وَمَا تَفْعَلُوا۟ مِنْ خَيْرٍ فَإِنَّ ٱللَّهَ بِهِۦ عَلِيمٌ ﴿٢١٥﴾

يَسْأَلُونَكَ مَاذَا يُنْفِقُونَ قُلْ مَا أَنْفَقْتُمْ مِنْ خَيْرٍ فَلِلْوَالِدَيْنِ

Sahih International: They ask you, [O Muhammad], what they should spend. Say, "Whatever you spend of good is [to be] for parents and relatives and orphans and the needy and the traveller. And whatever you do of good - indeed, Allah is knowing of it."

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
قُلْ مَا أَنْفَقْتُمْ مِنْ خَيْرٍ فَلِلْوَالِدَيْنِ وَالْأَقْرَبِينَ وَالْيَتَامَىٰ	spend	spend	spend	spend	spend	spend	expend

All of these translations show that the first imperfect aspect **يُنْفِقُونَ** 'spend' affects the perfect aspect that follows it, **أَنْفَقْتُمْ** 'spent'; the perfect aspect indicates the same meaning as the

previous imperfect aspect; that is, the meaning of continuity of spending. However, the meaning can be interpreted both syntactically and contextually. From a syntactic point of view, grammarians interpret the perfect aspect **أَنْفَقْتُمْ** 'spent' as indicating the future because the condition indicates a future meaning (Al-Ṣabbān, 1997). The perfect aspect could be used for expressing the implication that the action is definitely going to happen in the future, bringing to mind the image of an action by explaining it as if it had happened in the past already, so it is like a memory or recollection, in order to highlight to the importance of the action itself; in this case, 'spending' (Al-Ṭabarī, 2001).

Another example in which the perfect aspect is used after the imperfect aspect in the same context:

60.

وَيَوْمَ يُنفَخُ فِي ٱلصُّورِ فَفَزِعَ مَن فِي ٱلسَّمَٰوَٰتِ وَمَن فِي ٱلْأَرْضِ إِلَّا مَن شَآءَ ٱللَّهُ ۚ وَكُلٌّ أَتَوْهُ دَٰخِرِينَ ﴿٨٧﴾

وَيَوْمَ يُنْفَخُ فِي الصُّورِ فَفَزِعَ مَنْ فِي السَّمَاوَاتِ وَمَنْ فِي الْأَرْضِ

Sahih International: And [warn of] the Day the Horn will be blown, and whoever is in the heavens and whoever is on the earth will be terrified except whom Allah wills. And all will come to Him humbled.

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
وَيَوْمَ يُنْفَخُ فِي الصُّورِ فَفَزِعَ مَنْ فِي السَّمَاوَاتِ وَمَنْ فِي الْأَرْضِ	will be terrified	will start in fear	will please (to exempt)	shall be terrified	will be terrified	will be terrified	terrified is whosoever is in the heavens and earth

Concerning the example above, one might perhaps expect the imperfect aspect to be used for the perfect aspect **فزع** 'terrified' in فيفزع ويوم ينفخ في الصور 'And the Day the Horn is gusted, and whoever is in the heavens and whoever is on the earth is terrified',[59] but the future tense is also possible. In this example, it can be said that the perfect aspect brings to

[59] Sahih International translation.

mind the image of actions as they will definitely happen on Judgment Day. Ibn Al-Aīr (1983, p. 161/3), the scholar of rhetoric, suggests that 'using the perfect aspect to talk about the future is useful, in that the perfect aspect expresses the future action that has not yet been determined is more informed and certain to happen'.

As shown in the examples above, shifting from the imperfect aspect to the perfect aspect may indicate stability as in the example:

وَالَّذِينَ يُمَسِّكُونَ بِالْكِتَابِ وَأَقَامُوا الصَّلَاةَ

Sahih International: But those who hold fast to the Book and establish prayer - indeed, we will not allow to be lost the reward of the reformers.

However, it may have other connotations that are required by the context; for example, in the same example:

وَالَّذِينَ يُمَسِّكُونَ بِالْكِتَابِ وَأَقَامُوا الصَّلَاةَ

the meaning here could be interpreted based on a different understanding of the context (Al-Hatārī, 2006), such as:

- To indicate the speed of action (happened slowly or fast)
- To indicate that the action is completed before another action.
- To indicate a permanent attribute (long-lasting event at a specific point)
- To indicate the desire for the action to occur, for example:

  يَسْأَلُونَكَ مَاذَا يُنْفِقُونَ قُلْ مَا أَنْفَقْتُمْ مِنْ خَيْرٍ فَلِلْوَالِدَيْنِ

  Sahih International: They ask you, [O Muhammad], what they should spend. Say, "Whatever you spend of good is [to be] for parents and relatives and orphans and the needy and the traveller. And whatever you do of good - indeed, Allah is knowing of it."

- To indicate the wish to interrupt the action and stop it, for example, in the example:

  فَإِنَّمَا يَشْكُرُ لِنَفْسِهِ وَمَنْ كَفَرَ فَإِنَّ اللَّهَ غَنِيٌّ حَمِيدٌ وَمَنْ يَشْكُرْ

  Sahih International: And we had certainly given Luqman wisdom [and said], "be grateful to Allah." And whoever is grateful is grateful for [the benefit of] himself. And whoever denies [His favour] - then indeed, Allah is free of need and Praiseworthy.

Looking at ways in which the perfect aspect is translated in the example above, we can see that different translations are used, but that the most agreement translation is the future perfect passive tense. The use of the future passive perfect tense in the translations might be because the perfect aspect is used in the context of an event taking place at a specific point, the Day of Judgment and because it describes what will happen on that day.

- *Shifting from perfect aspect to the imperative*

61.

قُلْ أَمَرَ رَبِّي بِالْقِسْطِ ۖ وَأَقِيمُوا وُجُوهَكُمْ عِندَ كُلِّ مَسْجِدٍ وَادْعُوهُ مُخْلِصِينَ لَهُ
الدِّينَ ۚ كَمَا بَدَأَكُمْ تَعُودُونَ ﴿٢٩﴾

وَأَقِيمُوا وُجُوهَكُمْ عِنْدَ كُلِّ مَسْجِدٍ

Sahih International: Say, [O Muhammad], "My Lord has ordered justice and that you maintain yourselves [in worship of Him] at every place [or time] of prostration, and invoke Him, sincere to Him in religion." Just as He originated you, you will return [to life].

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
وَأَقِيمُوا وُجُوهَكُمْ عِنْدَ كُلِّ مَسْجِدٍ	has ordered justice and that you maintain yourselves	enjoineth justice. And set your faces	hath commanded justice; and that ye set	has enjoined justice, and set	has ordered me to maintain justice. (People), pay due attention	has commanded justice and (said) that you should face Him only	has commanded justice. Set

Shifting from the perfect aspect to the imperative is sometimes required by the Qur'anic context. Al-Hatārī (2006) states this link جملة خبرية 'statement sentence' 'My Lord has ordered' with جملة طلبية'command sentence' 'maintain yourselves [in worship of Him] at every place', when converting between the two verbs for rhetorical purposes. In this example, the context is based on that of the previous verse which contains an order to leave obscene things (Al-Hatāri, 2006). But the order is made in a statement sentence and not made directly, arguably with the aim to achieve a rhetorical purpose based on the understanding of the receiver and the emotional output of the speaker. This contradicts Al-Hatārī (2006), in that the perfect aspect here is indicative of a habit action.

The perfect aspect **أمر** 'has ordered' is primarily translated into present perfect, and then the imperfective verb is used to translate the following verb. This translation may indicate that

the translators understand that the perfect aspect is indicative of an action that has just happened. Some interpretations clarify this shift between the perfect aspect and imperative expression, explaining the grammatical view in which the command sentence, e.g., وَأَقِيمُوا ‘set your faces’, follows the verb ‘say’: ‘and say, set your faces’ which is linked to the previous command verb ‘say’ in: ‘Say, [O Muhammad], "My Lord has ordered’. Al-Ša’rāwī’s (1991), for example, argues that it creates a link between a sentence that indicates an action in the past, a ‘statement sentence’ أَمَرَ رَبِّي بِالْقِسْطِ‘My Lord has ordered justice’, and a sentence that carries the command, such as وَأَقِيمُوا وُجُوهَكُمْ ’set your faces’. Supporting Al-Ša’rāwī’s (ibid.) explanation is the fact that the verb وَأَقِيمُوا وُجُوهَكُمْ ‘set’ follows the verb قل‘say’.

It thus seems that the perfect aspect can be explained in several ways based on the different interpretations of the verse and on possible grammatical views.

This is another example which shows shifting from the perfect aspect to the imperative:

62.

وَلَقَدْ عَلِمْتُمُ ٱلَّذِينَ ٱعْتَدَوْا۟ مِنكُمْ فِى ٱلسَّبْتِ فَقُلْنَا لَهُمْ كُونُوا۟ قِرَدَةً خَٰسِـِٔينَ ﴿٦٥﴾

فَقُلْنَا لَهُمْ كُونُوا قِرَدَةً خَاسِئِينَ

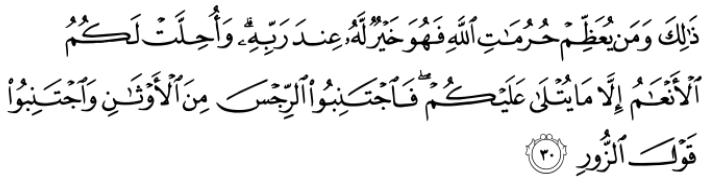
Sahih International: And you had already known about those who transgressed among you concerning the sabbath, and We said to them, "Be apes, despised."

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
فَقُلْنَا لَهُمْ كُونُوا قِرَدَةً خَاسِئِينَ	we said to them, "Be	we said to them, "Be	we said to them, "Be	we said to them, "Be	We commanded them, "Become	we said to them, "Be	we said to them, "Be

The imperative in this example may interpreted by the perfect aspect, thus linking the imperative to the previous perfect aspect to provide an agreement between the verb before ‘the prefixed particle *fa* ف‘and the verb after it for the purpose of agreement in meaning and syntactical rule (Ḥasan,1980). The content of the verse describes events that have occurred in the past, and the imperative verb ‘be’ is used instead of saying: ‘we made them monkeys’ the perfect aspect. Al-Ša*ʹs*arāwi (1991) explains this unexpected shift in the

context; he argues that using the imperative expression ‘became, or ‘be’ draws attention to the transformation that is taking place in the context described; this makes the action of people turning themselves into monkeys an important point in relation to the event that happened in the past. This shift in context also indicates how fast they were turning into monkeys, and thus shows God’s great power (Abu Ḥyān, 1983)

63.


ذَٰلِكَ وَمَن يُعَظِّمْ حُرُمَٰتِ ٱللَّهِ فَهُوَ خَيْرٌ لَّهُۥ عِندَ رَبِّهِۦ ۗ وَأُحِلَّتْ لَكُمُ
ٱلْأَنْعَٰمُ إِلَّا مَا يُتْلَىٰ عَلَيْكُمْ ۖ فَٱجْتَنِبُوا۟ ٱلرِّجْسَ مِنَ ٱلْأَوْثَٰنِ وَٱجْتَنِبُوا۟
قَوْلَ ٱلزُّورِ ﴿٣٠﴾

وَأُحِلَّتْ لَكُمُ الْأَنْعَامُ إِلَّا مَا يُتْلَىٰ عَلَيْكُم فَاجْتَنِبُوا الرِّجْسَ مِنَ الْأَوْثَانِ

Sahih International: That [has been commanded], and whoever honors the sacred ordinances of Allah - it is best for him in the sight of his Lord. And permitted to you are the grazing livestock, except what is recited to you. So avoid the uncleanliness of idols and avoid false statement.

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
وَأُحِلَّتْ لَكُمُ الْأَنْعَامُ إِلَّا مَا يُتْلَىٰ عَلَيْكُم فَاجْتَنِبُوا الرِّجْسَ مِنَ الْأَوْثَانِ	Permitted, avoid	are lawful, shun	are lawful, shun	are lawful, avoid	is made lawful, stay away	are lawful, shun	is recited, eschew

In this example, as in the previous example, we see linguistic structures that violate the grammatical rules approved by grammarians. The correspondence between *al-ma'tūf* المعطوف and *al-ma'tūf 'alayh* المعطوف عليه is the prerequisite for combining the actions in time (Hasan, 1975); this is unless there is a rhetorical purpose in the context that may make them incompatible. If we consider the interpretation of the verse, we can see that the action in the sentence that contains a permission ‘permitted to you’ that occurred in the past is still in effect until the present; therefore, the perfect is used to indicate the action of prior permission. The restriction of permissibility, on the other hand, is in line with the time of contexts and occasions of revelation in the Qur’an *sabab al-nūzūl* and indicates a future action, as the use of command verbs often indicates future actions (Subḥānī,1994). Yet another point of view is provided by Al-Hatārī (2006), who suggests that the shift from a

statement phrase to an order phrase in this example is made for a rhetorical purpose required by the context: it relates to the significant distinction in meaning between *ḥalāl* 'permitted' and *ḥarām* 'prohibited'. However, when we look at the translations of the example, we see that a command verb like 'avoid' is then used to translate the verb فَاجْتَنِبُوا, which follows the perfect aspect. This illustrates the importance of considering several issues when translating shift actions in Arabic.

In the case of shifting from the perfect aspect to the imperative for rhetorical purposes, the analysis in this thesis highlights some connotations that are required by the context; for example:

- To show respect to Allah's action.
- To indicate how fast the action was.
- To show that the action is sure to happen in the future.
- To draw attention to a vital point in the future action that already happened in the past.
- To show the ability of Allah to do anything.

Moving between different aspects does, therefore, not only happen for grammatical reasons but also for rhetorical reasons, connecting the structure to the Qur'anic context. In his research on the shift between Arabic verbs and their effect on Qur'anic rhetoric, Al-Hatārī (2006) discusses turning from the perfect to the imperfect and vice versa, as well as the transition from the past to the command or order, and so on, in the same context. Al-Hatārī (ibid.) asserts that these transitions of verbs serve a rhetorical purpose as well as being intended to conjure up the vivid imagery that the Qur'anic systems use. Abdel Haleem (2010, p.9) suggests that rhetorical aspects have not received sufficient scholarly attention in English, which in turn has a definite impact on the translation between Arabic and English; he says:

> The Qur'an has its own self-created features which unfortunately have not been fully studied in English. Knowledge of Qur'anic stylistics is essential for scholarship in this field …, there are in fact, no parallel books on Arabic rhetoric. Important commentaries in Arabic on the Qur'an, which elucidate its rhetorical excellence, such as those by Zamakhshari (d.1143) and Faxr Al-Dīn Al-Rāzī (d.1209), have not yet been translated into English. When sufficient books on these subjects are written in English, they will help to solve the

problems. Western readers find in appreciating the Qur'an's existing English translations.

- *Shifting from the imperfect aspect to the imperative*

64.

إِن نَّقُولُ إِلَّا ٱعۡتَرَىٰكَ بَعۡضُ ءَالِهَتِنَا بِسُوٓءٖۗ قَالَ إِنِّيٓ أُشۡهِدُ ٱللَّهَ وَٱشۡهَدُوٓاْ أَنِّي بَرِيٓءٞ مِّمَّا تُشۡرِكُونَ ٥٤

قَالَ إِنِّي أُشْهِدُ اللَّهَ وَاشْهَدُوا أَنِّي بَرِيءٌ مِمَّا تُشْرِكُونَ

Sahih International: We only say that some of our gods have possessed you with evil. He said, "Indeed, I call Allah to witness, and witness [yourselves] that I am free from whatever you associate with Allah".

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
قَالَ إِنِّي أُشْهِدُ اللَّهَ وَاشْهَدُوا أَنِّي بَرِيءٌ مِمَّا تُشْرِكُونَ	I call, witness	I call, do ye (too) bear witness	I call, do ye (too) bear witness	I call, do ye (too) bear witness	God is my witness and so are you that I have no association	I call, bear your witness	I call, witness

Some interpreters of this verse, such as Al-Ṭabarī (2001), suggest that the two verbs in the imperfect aspect and imperative expressing are used to convey the meaning 'I witness Allah myself and I also witness you people; I am free of from whatever you associate with Allah'. However, the context suggests a rhetorical purpose as discussed by rhetorical scholars such as Al-Biḥīrī (2002). He argues that the reason for the incompatibility between the two verbs in their construction is that each verb is used to indicate different actions. As long as the imperfect aspect is used to show the appreciation for Allah contained in 'I call Allah to witness', while the witness of Allah is a lawful constant certificate of truth, the imperative expression is used to ridicule this ability to do anything compared to the ability of Allah, and therefore the latter is used in 'I witness you people'. In this case, there is no need to interpret the imperative expression through the imperfect aspect to justify the compatibility between the two as each verb is used for a different reason, as is shown in the example translations.

Another example which shows the effect of rhetorical reasons for shifting between aspects:

65.

وَلَنَبْلُوَنَّكُمْ بِشَيْءٍ مِّنَ ٱلْخَوْفِ وَٱلْجُوعِ وَنَقْصٍ مِّنَ ٱلْأَمْوَٰلِ وَٱلْأَنفُسِ وَٱلثَّمَرَٰتِ ۗ وَبَشِّرِ ٱلصَّٰبِرِينَ ﴿١٥٥﴾

وَلَنَبْلُوَنَّكُمْ بِشَيْءٍ مِنَ الْخَوْفِ وَالْجُوعِ وَنَقْصٍ مِنَ الْأَمْوَالِ وَالْأَنْفُسِ وَالثَّمَرَاتِ وَبَشِّرِ الصَّابِرِينَ

Sahih International: And we will surely test you with something of fear and hunger and a loss of wealth and lives and fruits, but give good tidings to the patient.

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
وَلَنَبْلُوَنَّكُمْ بِشَيْءٍ مِنَ الْخَوْفِ وَالْجُوعِ وَنَقْصٍ مِنَ الْأَمْوَالِ وَالْأَنْفُسِ وَالثَّمَرَاتِ وَبَشِّرِ الصَّابِرِينَ	will surely test, give	shall try you, give	we shall test, give	will try you, give	we shall test, give	we shall test, give	will try you, give

In the above example, testing is linked to fear, hunger and to a loss of wealth and fruits/crops, and we must be patient when we encounter fear. Both verbs, 'testing' and 'giving good things' in both the imperfect aspect and the imperative expression are related to future actions. Thus, there is a link in time between the actions, and this type of connection – even if the construction is different – is also acceptable according to grammarians (Al-Zamaxašrī, 1998; Abu Mūsā, 1988). The shifting in this example shows that the action **وَبَشِّرِ** 'give' would be very fast and sure to happen.

6.4.3. *The importance of studying the use of linguistic context features that may have the same denotative meaning, and Syntactical function (e.g., the use of* sa-, *or* sawfa)

Among Arab grammarians, there are different opinions regarding the use of FUT- *sa*, or FUT- *sawfa* with the imperfect aspect, and each form has a unique function in the examples provided. Some Arabic scholars confirm that when an action will happen immediately or within a short period, the prefix FUT- *sa*- is used, but when an action will happen after an extended time (in the distant future), the particle FUT- *sawfa* is used, as there is a lengthy

period separating the time of speaking from the time of the action. Most *Basrah* grammarians confirm the previous case of using the particle FUT- *sawfa* to indicate a lengthy period and the prefix FUT- *sa-* is used to indicate an action that will happen immediately. On the other hand, the *Kūfah* School, such as Ibn Hišām and Ibn Mālik, claim similar meanings for both (Tawāmah, 1994).

These different opinions may be reflected in the English translations as the results of the analysis show. The translations primarily employ a future tense structure with the modal auxiliary 'will', while the Arabic imperfect aspect uses the prefix FUT- *sa-* سـ to talk about the future. The next table, on the other hand, displays frequency results regarding the use of *sawfa* used in conjunction with the imperfect aspect to describe an action in the distant future and their most used translations. The investigation shows that most of the context involving *sawfa* is used to describe an action that is certain to happen in the afterlife: 'if you do this in your life, you will do this in the life after'. In some examples, *sawfa* also describes situations that require a long time to be achieved but seem sure to happen.

Table 6.6 Frequency of the use of *sawfa* in the Qur'anic Arabic Corpus, and its translations

Lemma	Frequency in The Qur'anic Arabic Corpus (42 examples)	Translations
sawfa	In 38 out of 42 examples, *sawfa* is used to indicate actions that will happen in the afterlife. In four examples, *sawfa* is used to indicate actions that require a long time to be achieved	'be going to' is the translation most often used in the Sahih International translation, whereas 'will' is the most appropriate used translation in the other translations

See the examples below:

66.

قُلْ مَا يَعْبَؤُا۟ بِكُمْ رَبِّى لَوْلَا دُعَآؤُكُمْ ۖ فَقَدْ كَذَّبْتُمْ فَسَوْفَ يَكُونُ لِزَامًا ﴿٧٧﴾

فَسَوفَ يَكُونُ لِزاماً

Sahih International: Say, "what would my Lord care for you if not for your supplication?" For you [disbelievers] have denied, so your denial <u>is going to be adherent</u>.

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
فَقَدْ كَذَّبْتُمْ فَسَوْفَ يَكُونُ لِزَامًا	is going to be	will be judgment	soon will come	shall come	your punishment is inevitable.	will be yours forever	shall surely be fastened

67.

لِيَكْفُرُوا۟ بِمَآ ءَاتَيْنَٰهُمْ ۚ فَتَمَتَّعُوا۟ ۖ فَسَوْفَ تَعْلَمُونَ ﴿٥٥﴾

فَسَوفَ تَعلَمُونَ

Sahih International: So they will deny what we have given them. Then enjoy yourselves, for you <u>are going to know</u>.

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
فَلِيَكْفُرُوا بِمَا آتَيْنَاهُمْ فَتَمَتَّعُوا فَسَوْفَ تَعْلَمُونَ	are going to know.	will come	soon will ye know	soon will you know	will soon know	you will come to know	soon will ye know

In the translations into English, the future simple tense using ‘will’ is most used. A ‘going to’ construction is used in the Sahih International translation to indicate an action that is certain to happen in the distant future; this is constructed in Arabic with the particle FUT-*sawfa* سوف, as also shown, for instance, in the following verse examples.

68.

سَيَقُولُونَ ثَلَٰثَةٌ رَّابِعُهُمْ كَلْبُهُمْ ۖ وَيَقُولُونَ خَمْسَةٌ سَادِسُهُمْ كَلْبُهُمْ رَجْمًۢا بِٱلْغَيْبِ ۖ
وَيَقُولُونَ سَبْعَةٌ وَثَامِنُهُمْ كَلْبُهُمْ ۚ قُل رَّبِّىٓ أَعْلَمُ بِعِدَّتِهِم مَّا يَعْلَمُهُمْ إِلَّا قَلِيلٌ ۬ فَلَا
تُمَارِ فِيهِمْ إِلَّا مِرَآءً ظَٰهِرًا وَلَا تَسْتَفْتِ فِيهِم مِّنْهُمْ أَحَدًا ﴿٢٢﴾

سَيَقُولُونَ

Sahih International: <u>They will say</u> there were three, the fourth of them being their dog; and they will say there were five, the sixth of them being their dog - guessing at the unseen; and they will say there were seven, and the eighth of them was their dog. Say, [O Muhammad], “My Lord is most knowing of their number. None knows them except a few. So do not argue about them except with an obvious argument and do not inquire about them among [the speculators] from anyone”.

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
سَيَقُولُونَ ثَلَاثَةٌ رَابِعُهُمْ كَلْبُهُمْ	will say	will say	say	say	say	say	will say

The seven examples contain different translations of the verb: while some are in the future simple tense, some are in the present tense. As observed in interpretations of the Qur'anic verse, some explanations suggest that the action is considered a description of who will hear the verse from the Prophet Muhammad; their action is expected to happen at the time of hearing the story or in the very near future. Al-Alūsī (1994) confirms that the imperfect aspect here indicates an action both in the present and the future.

Tawāmah (1994) notes that some contemporary researchers argue that *sa-, sawfa* when presented with the imperfect aspect is not used to describe future action, but can be used to express an action that is happening at the present so that the verb that follows should always be translated in the present tense and the indicative mood.

From the above analysis, it can be seen that the particle FUT- *sawfa,* when presented with the imperfect aspect, is used to indicate that the future action would happen in the afterlife; the most appropriate translation used to translate *sawfa* with the imperfect aspect is 'be going to' in the Sahih International translation, while 'will' is the most frequently used translation in the other translations. English grammar could affect the Sahih International translation as 'going to' is mostly used for actions that seem certain to happen in the future or for plans and arrangements that have already been made. Simon (2013) outlines the different use of 'will' and 'be going to' through the use of the following examples:

I'm sure you will have a lovely time in Italy. (Opinion)

My sister is going to have a baby. (We can see that she is pregnant)

6.4.4. *The importance of considering possible difficulties faced by the translators due to the difference in verb systems and tense structures*

The result of Lancbox collections which illustrates the most networks of the English translations that collocate the jussive word confirms the multiple tense and aspect translations used to translate, for example, present, simple, past, future, perfect, say, etc.,

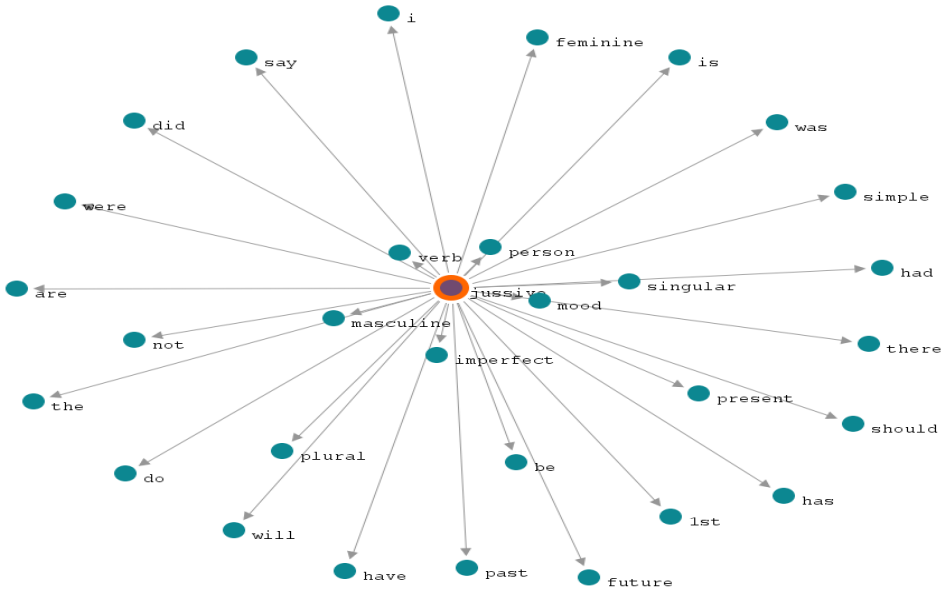


Figure 6.1 Lancsbox keywords analysis [See Appendix B]

This due to the fact that each language has its own rules of morphology and syntax to indicate tense and aspect. From the analysis, it follows that the two languages under investigation here, Arabic and English, differ in their morphological and grammatical rules to indicate an action concerning time. The analysis shows that to locate an action in time in Arabic or to indicate an action with the time, we can use particle + time adverb + aspect, or auxiliary verb + particle + aspect, or particle + particle + aspect. For example, we can use the CERT- particle **قد** *qad* 'particle of certainty' with the auxiliary verb كان *kāna,* or with its different morphology forms such as *kānū* كانوا, *kunta* كنت in: (قَدْ كَانَ لَكُمْ آيَةٌ فِي فِئَتَيْنِ الْتَقَتَا). This is not possible in English.

One of the results discussed in Chapter Five also shows a structural gap between the tense systems in both languages. In Arabic, verb conjugations *fiʿil -yafʿalu* **فعل-يفعل** are not used to locate an action in time – whether past or present – or how something can be viewed in relation to time. We have also seen that Arabic verbal aspects can be used to indicate tense as long as the verb is combined with various other linguistic context features, such as particles, time adverbs, etc. In English, on the other hand, verb forms can be inflected to indicate tense; for example, the past tense forms of the verb with the endings -d, -ed and –ing. The auxiliary verb such as had in English can be used to indicate that one action occurred before another action in the past. The auxiliary verb such as has can be used in English to indicate unfinished action or the action that is ongoing to present. The following

table shows how auxiliary verbs and verb inflections both affect verb tense and aspect in English in different ways.

Table 6.7 The use of auxiliary verbs and verb inflections to indicate tense and aspect in English translations

Noun	V + ing /began saying
future passive	will/shall be said
present continuous	is/are + ing
past continuous	was/were + ing
future	will/shall + verb
present	is/are to the verb would say can/could + verb
past	were/was to + verb + ed
perfect	would have been used to
past perfect	had + p.p. could/should/would have
past perfect continuous	had been saying
present perfect continuous	have/has been
present perfect	have/has + p.p.
present passive	is/are + p.p.
past passive	was/were + p.p.

In Arabic, auxiliary verbs and condition particles, for example, can be used in conjunction with the main verb to express time and action, to show that something is absolute/possible (or not), to make requests or offers, to talk about ability, to ask permission, and so on. However, the possibility of using the same morphological structure of the words to indicate more than one meaning can happen, which in this case is called «the multiplicity of meanings of the constructed unit», as Asaad (2016.p.666) suggests. Asaad (2016) also explains that, saying, ‘which, on examining the text in which the word has been used, we will understand which meaning is signified by the word.’ This use of the auxiliary verbs and particles in the two languages is apparent in the verse and its translation:

69.

قَدْ كَانَ لَكُمْ ءَايَةٌ فِى فِئَتَيْنِ ٱلْتَقَتَا ۖ فِئَةٌ تُقَٰتِلُ فِى سَبِيلِ ٱللَّهِ وَأُخْرَىٰ
كَافِرَةٌ يَرَوْنَهُم مِّثْلَيْهِمْ رَأْىَ ٱلْعَيْنِ ۚ وَٱللَّهُ يُؤَيِّدُ بِنَصْرِهِۦ مَن يَشَآءُ ۗ إِنَّ فِى
ذَٰلِكَ لَعِبْرَةً لِّأُو۟لِى ٱلْأَبْصَٰرِ ﴿١٣﴾

قَدْ كَانَ لَكُمْ آيَةٌ فِي فِئَتَيْنِ الْتَقَتَا

Sahih International: Already there has been for you a sign in the two armies which met - one fighting in the cause of Allah and another of disbelievers. They saw them [to be] twice their [own] number by [their] eyesight. But Allah supports with His victory whom He wills. Indeed in that is a lesson for those of vision.

In Arabic grammatical structure, the particle **قد** *qad* is used in verse above to put stress on the verb *kāna* **كَانَ** with the help of the contextual meaning to express Allah's talk after the day of Bader, which is translated as for saying that: you have a lesson and a sign of the truth of what I say, that you will overcome to the two divisions that met each other on the day of Badr. However, the variety of denotations of the constructed unit of *qad*+ *kāna* can happen based on the context. In verse translation into English, the simple structure of the present perfect aspect using auxiliary verb' has + been is used to describe that meaning. And in the following example:

70.

وَلَوْ جَعَلْنَٰهُ قُرْءَانًا أَعْجَمِيًّا لَّقَالُوا۟ لَوْلَا فُصِّلَتْ ءَايَٰتُهُۥٓ ۖ ءَا۬عْجَمِىٌّ وَعَرَبِىٌّ ۗ قُلْ هُوَ لِلَّذِينَ
ءَامَنُوا۟ هُدًى وَشِفَآءٌ ۖ وَٱلَّذِينَ لَا يُؤْمِنُونَ فِىٓ ءَاذَانِهِمْ وَقْرٌ وَهُوَ عَلَيْهِمْ عَمًى ۚ
أُو۟لَٰٓئِكَ يُنَادَوْنَ مِن مَّكَانٍۭ بَعِيدٍ ﴿٤٤﴾

وَلَوْ جَعَلْنَاهُ قُرْآنًا أَعْجَمِيًّا لَقَالُوا لَوْلَا فُصِّلَتْ آيَاتُهُ

Sahih International: And if we had made it a non-Arabic Qur'an, they would have said, 'Why are its verses not explained in detail?'

In verse above, the constructed unit of the conditional tense using **لَوْ** *law*+ the perfect aspect, and the past perfect in the main clause is used to indicate a hypothetical future case which is understood by the context in which the constructed unit has been used. Looking at further categories concerning conditional tense in the English translations, we see that

the past perfect ‘had made’ with ‘if’ + future present perfect is used to talk about something that has not happened, but that could have happened. The past perfect tense structures as:

auxiliary had	+	the main verb in the past tense

The auxiliary verb ‘had’ is used to form the verb aspect. It is evident in English that the verb aspect is not based on a morphological rule, through adding endings or changing the verb. However, the main verb is used to indicate how time is encoded; for example, in words such as ‘say’, ’says’, ‘said’. The aspect of the verb is formed with the help of auxiliary verbs as the way of building perfect aspects in English, and they are treated as part of the tense system. Moreover, in English, aspect[60]can be expressed with the help of particles,[61] with adverbs that are used to modify verbs, or with verb phrases that contain an auxiliary verb, noun, other verbs, adverb, or infinitive, etc.

The use of the constructed unit in Arabic to indicate different meaning creates a gap between the two languages when forming tenses, as a result of which there can be no one-to-one correspondence in the translations. Mansour (2012) discusses how this difference affects the translator: ‘this may lead a translator, to a great extent, to use the sentence structure in the target language as an equivalent to two different tenses in the original language’. The previous argument is also what the analysis of the examples under investigation here has shown; due to the lack of formal one-to-one correspondence; less systematic in the use of perfect/progressive aspects (past and present) between the two languages, some translators use past/present simple tenses in their translation of the perfect/progressive past and present since there is no specific formula that prescribes the distinction between the two.

Shamaa (1978, pp. 32–33) also discusses potential reasons for the difficulties encountered when translating Arabic tenses into English:

> Temporal contrasts in Arabic are less systematic, i.e., they are not clearly marked by verb forms. […] Temporal reference in Arabic is expressed by means of verb forms in conjunction with time adverbials and other lexical items. It is, however, the context which […] finally places the action or event in its true temporal and aspectual perspective. But since context may not provide the same clear-cut and easy

[60] Sometimes called perfective

[61] Particles are characteristically words that encode grammatical classes (such as tense, mood, negation, or case).

> determination afforded by some European [e.g. English] tense systems, it is, therefore, a source of occasional ambiguity.

More examples which show the difference between the translations used to translate the Arabic aspect in the same verse:

لَا تَقْرَبُوا الصَّلَاةَ وَأَنْتُمْ سُكَارَىٰ حَتَّىٰ تَعْلَمُوا مَا تَقُولُونَ

Sahih International: O you who have believed, do not approach prayer while you are intoxicated until you know what you are saying.

The verse	Sahih International	Pickthall	Yusuf Ali	Shakir	Muhammad Sarwar	Mohsin Khan	Arberry
لَا تَقْرَبُوا الصَّلَاةَ وَأَنْتُمْ سُكَارَىٰ حَتَّىٰ تَعْلَمُوا مَا تَقُولُونَ	are saying	utter	say	say	say	utter	are saying

The verse shows that some translators use the present simple tense to translate the verb ماتقولون 'until you know what you say'. However, the action is controlled by prayer time and also by 'knowing what they are saying'. The effect of wine lasts for some time; it is an action going on at the time of praying (Al-Ṭabarī, 2001). Two translators express this meaning using the present progressive tense. It is clear that the translators understood that the verse associates the prohibition only with a specific time, the moment of prayer, and the amount of time in which the wine has an effect on the person (Do not pray until you know what you are saying) so that they use the present progressive tense to translate this. In this regard, Slal (2009, p. 88) explains that the present tense is used in Arabic to indicate an action that is happening at the moment of speaking, whereas English has a different tense form for this: 'the Arabic present tense often refers to an action taking place at the moment of speaking (now). In English, this use of the present tense is confined to a limited number of verbs, notably verbs of sensation[62]. The English equivalent is expressed by the progressive aspect'. Mansour (2012) explains how both the past and present perfect aspects are sometimes expressed using the past simple tense in translation: 'Sometimes, both types are mixed up mostly with the past tense to the degree that no formal and/or semantic difference can be formed between them, particularly in translation into Arabic'. The

[62] Verbs such as look, seem, taste, feel, smell, etc.

difference between the two translations concerning the use of simple past tense and present perfect tense for the same action can be seen in the following examples:

71.

وَإِذَا قِيلَ لَهُمْ ءَامِنُوا۟ بِمَآ أَنزَلَ ٱللَّهُ قَالُوا۟ نُؤْمِنُ بِمَآ أُنزِلَ عَلَيْنَا وَيَكْفُرُونَ بِمَا وَرَآءَهُۥ وَهُوَ ٱلْحَقُّ مُصَدِّقًا لِّمَا مَعَهُمْ ۗ قُلْ فَلِمَ تَقْتُلُونَ أَنۢبِيَآءَ ٱللَّهِ مِن قَبْلُ إِن كُنتُم مُّؤْمِنِينَ ﴿٩١﴾

فَلِمَ تَقْتُلُونَ أَنْبِيَاءَ اللَّهِ مِنْ قَبْلُ

Sahih International: And when it is said to them, “Believe in what Allah has revealed”, they say, “we believe [only] in what was revealed to us”. And they disbelieve in what came after it, while it is the truth confirming that which is with them. Say, “Then why did you kill the prophets of Allah before, if you are [indeed] believers?”

Mohsin Khan: And when it is said to them (the Jews), “Believe in what Allah has sent down”, they say, “we believe in what was sent down to us”. And they disbelieve in that which came after it, while it is the truth confirming what is with them. Say (O Muhammad Peace be upon him to them): “Why then have you killed the Prophets of Allah aforetime, if you indeed have been believers?”

Also, the translation of the imperfect aspect + the verb *kāna* + *qad* in the following example:

وَلَقَدْ كُنْتُمْ تَمَنَّوْنَ الْمَوْتَ مِنْ قَبْلِ أَنْ تَلْقَوْهُ

Sahih International: And you had certainly wished for martyrdom before you encountered it.

The construction of the imperfect aspect + *kāna* + *qad* is used to indicate that a certain action took place in the distant past. This is often expressed in English through the past perfect. However, different translations are used to translate the imperfect aspect (the construction unit in the context) here:

Table 6.8 Different tense forms used to translate the Qur’anic Arabic imperfect aspect

Sahih International	had certainly wished	past perfect
Pickthall	used to wish	habitual perfect
Yusuf Ali	did indeed wish	past simple
Shakir	certainly, you desired	past simple
Muhammad Sarwar	certainly wished	past simple
Mohsin Khan	did indeed wish	past simple
Arberry	were longing for death	past continues

In this context, Al-Milīfī (2015) suggests a multiplicity of translations of the meanings of the Qur'an in English in the light of the syntactical analysis – an analytical study of some translation models used to translate the Qur'an and some of its different translations, such as Sahih International, Pickthall, Arberry, etc. – and that the translator should focus on all aspects of his choice of interpretations of the Qur'an, and that a translator should follow the literal translation approach, which is concerned with finding correspondences for each component in the syntax, its function, its meaning and relation to other meanings, and by giving each word the right clarification when translating. As a result of his analysis of different translations for one verse, Al-Milīfī (2015) suggests that this difference in understanding may be based on different understandings of the context, including differences in the perceptions of the verse interpreters, and it may be due to the translator misunderstanding the context. Al-Milīfī (2015) also addresses the importance of semantic and syntactical directions of interpretations based on different Qur'anic readings, as the multiplicity of interpretations of the single verse may relate to the multiple readings of the verse. This will be discussed in more detail in the following section.

6.4.5. *The importance of studying the variance of the Qur'anic semantic context and grammatical rules, which may be due to the multiplicity of* Qirā'āt **(القراءات القرآنية)**

Grammarians and interpreters often differ in their readings of the Qur'an. There is, for example, a difference between the school of *Al-Baṣrah* and the school of *Al-Kufah* in terms of accepting some Qur'anic readings and rejecting others. The definition of Qur'anic readings varies among scholars such as Al-Juzarī (1999) and Al-Banā (1987), but in general, it refers to the dissimilarity in the reading of the Qur'anic words when the words

are spoken out loud by Qur'anic readers: the method of reading or recitation. Recitation differs according to rules of pronunciation, intonation, which means a break in a verse where one phrase finishes and the following phrase starts (Al-Aṣbaḥī, n.d.; Ḥabīb, 2015).

One example that has been widely discussed in terms of the existence of multiple readings is the following:

72.

يَٰٓأَيُّهَا ٱلَّذِينَ ءَامَنُواْ لَا تَأۡكُلُوٓاْ أَمۡوَٰلَكُم بَيۡنَكُم بِٱلۡبَٰطِلِ إِلَّآ أَن تَكُونَ
تِجَٰرَةً عَن تَرَاضٖ مِّنكُمۡۚ وَلَا تَقۡتُلُوٓاْ أَنفُسَكُمۡۚ إِنَّ ٱللَّهَ كَانَ بِكُمۡ رَحِيمٗا ٢٩

Sahih International: O you who have believed, do not consume one another's wealth unjustly but only [in lawful] business by mutual consent. And do not kill yourselves [or one another]. Indeed, Allah is to you ever Merciful.

Pickthall: O ye who believe! Squander not your wealth among yourselves in vanity, except it be a trade by mutual consent, and kill not one another. Lo! Allah is ever Merciful unto you.

Muhammad Sarwar: Believers, do not exchange your property in wrongful ways unless it is in a trade by mutual agreement. Do not kill one another. God is All-merciful to you.

In this example, there is a verbal reading that shows different grammatical and semantic meanings behind the recitation of the subject that follows the imperfect aspect **تكون** 'be'. The grammatical and semantic analysis of the verb indicates the following:

- One reading of the noun **تجارة** 'business' puts it in the nominative case *marfūʿ* **مرفوع**, as it is the subject *fāʿil* **فاعل** of the verb **تكون**, while this nominative case reading indicates a general allowance, i.e., money, of lawful business to all who are in debt, have a loan or have made a purchase (Gahawagi 1993; Ibn Yaʿīš, 2001). This reading is to be understood in the sense of an action that is ongoing and could happen again.
- Another reading of the noun **تجارة** 'business' puts it in the accusative case *manṣūb* **منصوب**. In this case, the meaning is: 'is only that the money that is used between

you is a trade on the consent of you and it is permissible for you to take it'. The verb *kāna* is used to indicate the meaning of stable action without interruption, as the nominal sentence indicates stability (Al-Hamaḏānī, 1992; Abū ʿAlī, 1993).

When observing previous translations of the imperfect aspect **تكون** 'be', it is clear that the meanings are used in the three translations, as in 'but only [in lawful] business by mutual consent', unless it is a trade by mutual agreement: 'except it is a trade by mutual consent' may be based on the interpretation that chooses the accusative case reading for the noun **تجارة** 'businesses', as the accusative case reading indicates that it is forbidden to steal people's money unjustly and permanently, but business communication should happen through mutual consent (ʿAgil, 2015). In this regard, Ḥabīb (2015, p. 406) says 'the difference in Qur'anic readings leads to different interpretations, and a multiplicity of interpretations also leads to differences in judgments. Therefore, it is necessary to draw attention to the Qur'anic readings, their rules and conditions to establish the correct criteria for judgment between those readings. In this regard, Ḥabīb (2015) explains that the *Al-baṣrah* and *Al-kufah* schools have recognised the importance of quoting Qur'anic readings on some of the linguistic and grammatical issues that they have treated in their rules. Similarly, ʿAgil (2015, p. 222) confirms that 'the connection between grammar, interpretation, and Qur'anic readings is very close; it is like the connection of the body to its parts'.

According to the verb tense and aspect translation, since the linguistic context can be used to understand the different cases of tenses of Arabic verb aspects in different moods, commands, requests or negative prohibitions, the translator has the task of linking the verb aspect, the linguistic features and the context. The Arabic verb context may contain multiple linguistic context features at the same time, and the same tense does not always equate to the same linguistic feature. It should also be kept in mind that the translator should have a deep historical understanding of the prior and following actions and be able to make links between close events and those in progress by considering the entire context of a situation. However, this also includes knowledge of the linguistic context features of what is being said. Using correct syntactical and morphological rules is part of the translation. The drive behind understanding syntactical and morphological rules is to create a description that captures the connotation of the sentence that is being translated to find the most effective translation.

Mainly, the Qur'anic context differs significantly from others in Arabic in that the verses should be understood in their broader context. A recent study by El-Saba (2017) also suggests that 'the Qur'an is written in a highly symbolic and classical form of the Arabic language, [so] translating it requests a profound consideration of its meanings and an ability to reflect those meanings into the target language.' Since all verses in the Qur'an are related to each other, the verse must be treated within its broader context so that a full understanding of its tense or aspect can be achieved. In addition, the Qur'an has numerous interpretations, and various scholars, such as Al-Ṭabṭabā'ī (1983), suggest that the context described in the verses of the Qur'an might invite several grammatical and hermeneutical interpretations. Therefore, by understanding the context, its characteristics and history, its **البلاغة** rhetorical purpose which shows the impressive effect of language by the use of manipulation of figures of speech and other compositional practises,[63] the interconnection between verses related to the same situation and the syntactical rules, it is possible to translate Arabic verbs accurately. Khajehei and Shakarami (2012) confirm that to understand the text, correspondence in and between the *surah*s is significant. Moreover, to understand the relevant concepts of the Qur'anic context, the influence of meaning and the linguistic features of the *surahs* should be considered. Haleem (2010) provides evidence for the influence of the use of grammatical shifts in the tenses of verbs, called *iltifāt* in Arabic (i.e., 'turning from one to another') and highlights how it is useful for readers to consider the influence of grammatical shifts in the Qur'anic context. It is necessary to have a full understanding of Qur'anic states, stories, general events or events of a particular category of people or in a particular time to make links between previous and subsequent events and to comprehend the reasons for the revelation of the verse or Surah أسباب النزول *asbab al-nuzūl*.

Abdel Haleem (2010, p.10) also argues that the English translation of the Qur'an is disappointing since it lacks clarity and consistency compared to the original text: 'The Qur'an's unique qualities in the Arabic need to be analysed in English, and a new approach adopted towards its translation. Even the best of the available translations poses very serious difficulties in the proper appreciation and understanding of the Qur'an.'

[63] language designed to have a persuasive or impressive effect. The Arabic term *balāghah* covers rhetoric, eloquence, and *faṣāḥah*, or purity and perfection of language. Since its pre-Islamic usage (oxford reference).

Overall, the results demonstrate a strong effect of the rhetorical and grammatical practice of the Qur'anic perfect and imperfect aspect. The difference in translations may be due to differences in interpretations, grammatical rules, rhetorical purpose and occasions of revelation in the Qur'an, and the multiplicity of the *Qirā'āt*; ultimately, this affects the translations of the Qur'an. Moreover, these essential findings are consistent with research showing the critical reference to Hadith in Qur'anic translations. El-Saba (2017, p.1) confirms the vital reference to Hadith in Qur'anic translations, saying:

> The Qur'an and Hadith are deeply related, so scholars attempting to translate the Qur'an should be fully aware of the Hadith and Sirah, which are the sayings and narrations of Prophet Muhammad's life reported after his death. Some verses can be understood completely because of the Hadith.

6.5. Summary

As seen in the sections above, this research has provided evidence for the following points:

1. The morpho-syntactic features of the Arabic verb tense and aspect
2. A set of strategies to follow when translating Arabic verbs in the Qur'an
3. A comparison between the Classical Arabic verb aspects as seen in the Qur'an and English tense and aspects
4. Under the first point, the morpho-syntactic features of the English translations of the Arabic verb tenses and aspects are presented. However, the analysis using WEKA machine learning relied only on the Arabic morpho-syntactic features used with the verb and their parallel English tense and aspect. The English morpho-syntactic features were studied in at least three example translations by counting the different morpho-syntactic features used with the help of Excel. It was taken into consideration that the following studies using WEKA may have the grammatical features in the English translations. (More examples and details of the statistical analysis can be found in the Electronic Appendix.)

In addition to the points above, this chapter has shown the effectiveness of using a corpus-based methodology in exploring the Classical Arabic verb in the Qur'an. Reflections on

these findings and their implications will be discussed in the following chapter together with suggestions and recommendations for future research.

Chapter 7 Conclusion

This chapter concludes this research, which explored the Classical Arabic verb in the Qur'an and its translations. This chapter examines the findings and implications of this research. It then discusses the challenges of, and reflections on, the research. Lastly, it presents suggestions for future studies.

7.1. Findings and implications

This section reviews the results discussed in the previous chapter to highlight the implications that each of these findings contributes to corpus linguistics, translation studies, and Qur'anic studies. On the theoretical level, this research has confirmed previous viewpoints on aspect and tense in the Classical and Modern Standard Arabic systems. Based on the results of the qualitative analysis in the close reading of the Qur'anic verses in this research, it was found that aspect can be identified in terms of complete and incomplete actions (perfect and imperfect respectively) and that it is realised in Arabic in the use of distinct verbal patterns such as *fiʿil -yafʿalu* **فعل-يفعل**. The findings of the qualitative analysis have shown that there could be an overlap between the representation of aspect and tense, which might pose a challenge for the translator. This was found to be especially true in the Qur'anic text because of the interrelatedness of the verses. To resolve this issue, previous studies have suggested an examination of the linguistic context of the Arabic verb. Eisele (1990) and El-Sadek (2014) recommend examining auxiliaries around the verb to determine tense and aspect in varieties of Arabic. This research supports this suggestion of including the linguistic context in the analysis of the Arabic verb aspect.

Furthermore, as discussed in Chapter Two of this thesis, the comparison of the Arabic verb aspect in the Qur'an to that of its English translation reveals similar distinctive features to those in the previous literature. For example, in the English verbs taken from the translations of the Qur'an, it was found that the inflectional morphology is used to indicate tense through fixed inflectional morphemes (e.g., -ed, -ing, -s) and tense patterns (e.g., created, is doing, was doing, comes), whereas aspect is determined through the use of auxiliary verbs. By contrast, Arabic does not employ inflectional morphology to determine tense. Instead, it uses morpho-syntactic forms (e.g., *qad kāna yafʿalu* **قد كان يفعل**), auxiliary verbs such as *aṣbaḥa* **أصبح** and *kāna* **كان**, particles such as *lam* **لم** and **لن** *lan* to indicate past and future tense, and time adverbs such as **الآن** *al-āna* and *bukratan* **بُكْرَة**.

In terms of the methodology, this study has shown the benefits of employing a corpus linguistic methodology to analyse the morpho-syntactic features of the verb in the Arabic version of the Qur'an and its English translations. Those benefits are summarising in the following paragraphs:

1. By discussing Arabic aspects and their corresponding tense and aspect in the English translations, this will attempt to clarify the primary association between tense/aspect and morpho-syntax; it will also explain how the English tense classes can parallel the Arabic aspect. It offers a description of a model for English translations of Qur'anic Arabic perfect and imperfect aspects based on the contextual references. The result of the statistical sequence by showing the numerical rating of the degree could be used to address the translations that would be suggested as predictive of Qur'anic verb translation in the study of the contextual reference's frequencies. This method would be like Gadalla's (2006) process in his analysis of the imperfect aspect translations. He proposed a model for translating Standard Arabic imperfect verbs into English based on their contextual reference's frequencies More details of statistical results can be found in the Electronic Appendix).[64]

   Gadalla (2002, 2006, and 2017) discusses the majority of the tense/aspect classes in English and their corresponding Arabic perfect and imperfect forms, pointing out how the lack of direct correspondence between the two languages may create a problem for the Arabic–English translator. This is a conclusion based initially on his comparative study of two translations of Pearl Buck's novel *The Good Earth*. Gadalla (2002, p. 2) concludes that "the Arabic text must contain clues that guide the translator in choosing the suitable English tense" and argues that "it seeks to identify and describe some of these clues for throwing some light on the very complex problem of translating Arabic tenses into English and English tenses into Arabic" (2002, p. 2). Taking Gadalla's argument into consideration, this thesis will describe some indications that guide the translator in choosing the most suitable

[64] In chapter 5 (5.1) some examples concerning the different translations used to translate the perfect aspect (949) examples are discussed; however, more examples in the case of the bare perfect aspect, and in the case of using morph-syntactic features in the verb context are examined to discuss the most agreement translations used to translate the target verb. The frequency of agreement translations can be used as a model for the Arabic verb aspect's predictive translations.

English tense/aspect for the Qur'anic perfect and imperfect aspects. This will showcase the complexity of Qur'anic Arabic translations.

2. Using corpus linguistic analysis methods such as statistical analysis was beneficial to discover the compatibility and differences between the translations. Statistical analysis shows that there is one translation agreed upon by translators in many cases of Arabic verb aspect translation. This is very useful in counting the various translations of the Qur'an verbs agreed upon by most translators, and it may serve as a template that can be used in improving the translation of the Qur'an.
3. One of the most important objectives behind this research and analysis is to discover new methods and recommendations other than those addressed by previous researchers concerning the improvement of the translation of the Arabic verb aspect, especially in the context of the Qur'an. To fulfil this objective, the research employed the data mining method using WEKA machine learning. A predictive model with new data for the Qur'an perfect and imperfect aspect with their corresponding English tense and aspect translations could be convenient, especially in the case of choosing the classifier that works best and fast, such as an explainable English Qur'anic Arabic model. An example of this is a WEKA j48 decision tree, which shows which features combine with Arabic verb aspects to give specific English verb tenses. However, since data mining using WEKA on the data addressed in this research is a new method, it still requires a lot of development and updating of data. The literal translation of the Qur'an verb aspect may be very useful to get accurate results. This may be reflected in the desired results of the data mining method's automated classification. Although its results are initially less satisfactory than desired, this method is expected to be able to predict and classify the translation based on a single literal translation of the Qur'anic verb aspect.
4. Using the corpus linguistic methodology achieved the first aim of this research, which is to explore the Classical Arabic verb in the Qur'an and its renderings. This can be considered an addition to the field of Arabic linguistics because, to the researcher's knowledge, this has not been done in the previous studies on the Classical Arabic verb, particularly in the Qur'an. The corpus parallel reading in the qualitative analysis to reveal the different features of the Classical Arabic verb in the Qur'an and its translations was able to highlight similarities and differences between the two language systems, a task that fulfilled the second aim of this research.

The series of experiments conducted in this research provides evidence for the effectiveness of a mixed approach of quantitative and qualitative analyses in the investigation of the Classical Arabic verb in the Qur'an. The statistical analysis conducted via SPSS and its Kappa function showed that this tool was effective in underlining the similarities and differences between the Classical Arabic verb, as in the Qur'an, and its translations into English. Thus, this facilitated the identification of strategies that translators need to follow when translating the Classical Arabic verb, particularly in the Qur'an. The descriptive statistical analysis investigates the rate of agreement and disagreement in the English translations of Qur'anic Arabic verbs in different cases. The statistical analysis shows that the Qur'an Arabic aspect may translate it into past simple or past perfect at the same time even if the verb aspect is in a context that is devoid of any linguistic context features that may help determine the verb tense. The tense forms that are used to express time and action in English are precise, while, in Arabic, there are no such tense forms that make it easier for translators to determine the corresponding tense in translation. According to Baker (1992), the difference between the source language and the target language in terms of grammatical structures makes the translation between the two languages different, and some information may be added during the process of translation to the target language text that does not exist in the source-language text.

Using WEKA as a data analysis tool in the quantitative analysis to classify the English translations of the Qur'an according to the collected linguistic morpho-syntactic features in this thesis was very efficient. It incorporated state-of-the-art data mining with a study dealing with Arabic linguistics, which adds to studies in both corpus linguistics and Qur'anic studies. The findings from WEKA were able to highlight the different translations used based on linguistic features, e.g., morpho-syntactic features in translation classifications. This, in turn, helped in identifying the importance of detailed contextual analysis of translating the Classical Arabic verb in the Qur'an. This research provides evidence of the effectiveness of employing a mixed-methods approach in the analysis of the morpho-syntactic features of the Classical Arabic verb aspect and its translations.

This study presents a list of strategies that translators need to consider when translating the Arabic verb in the Qur'an into English. One such strategy is that the imperfect and perfect aspects of the Arabic verb in the Qur'an can be translated into multiple English tenses and aspects because there is no simple one-to-one correspondence that can be readily applied

by the translator. The thesis reveals strategies that might be useful to consider in Qur'anic translation, both for human translation and machine translation, although the benefits for one and the other cannot be lumped into one, since what may be a problem for the machine may not necessarily be a problem for human translations. The difficult of envisaging what is challenging from a translator's perspective on the basis of their translation output without considering their own experience of difficulty; particularly since, as machine translation research has revealed, there are complex shifts in syntax, agreement, anaphora, etc. such as the ones exemplified in this thesis, that do not require complex human processing but can be problematic for machine translation. This had required me to reconsider the questions I pose as the data reveals that other than establish 'rules' (research Q2) and determine 'challenges'(Q4), the thesis reveals strategies that might be useful to consider in Qur'anic translation, both for human translation and machine translation, and merge between the two Questions in only one question.

The issue of translating the meanings of the Qur'an is controlled by many factors, which depend on an understanding of the purpose, what is included in the Qur'an text, and the extent of the validity of this translation in conveying this intended meaning? It also depends on the surah rulings contained in the verses, and it also depends on the language used to express this meaning. They are conducting a qualitative analysis as this study provided by studying the context of some translations of some Qur'anic contexts and looking at the meaning that the translator inferred from the Qur'anic context and the linguistic features used by the translator in his translation, as is the case in the use of some auxiliary verbs when translating the verb, which affected reaching results. The recommendations that are reached by this research are achieved by presenting the closest translations that the translators have agreed upon in their translation of some cases of action in the context of the Qur'an.

Hence, they would have to go around this shortcoming by looking at the different interpretations of the Qur'an, which, in turn, yield up various translations. Related to this is the fact that the Qur'an has numerous interpretations (*tafsīr*s), which makes the sense of the verb aspect (e.g., complete versus incomplete actions, continuous versus not continuous) differ depending on the translator's choice of interpretation. Furthermore, even with the presence of auxiliaries in the Arabic text, aspect at times can be different to identify and render into English. This ambiguity is especially present with the Qur'anic use of the

auxiliary verbs with forms that can have more than one meaning. Therefore, starting with each translation separately and analyzing its context may help in the development of translations of the Qur'an that are included to the Arabic Quranic corpus.

7.2. Challenges and reflections

The challenges of this research were related to its nature and the application of its methodology. Because this research is interdisciplinary, a balance between the two fields of study, Arabic linguistics and translation studies, has to be maintained. The exploration of the Classical Arabic verb system ran parallel to the investigation of the English translations of the Qur'an. In this regard, it was not easy to put together a methodology that could answer questions about the features of the Arabic verb in the Qur'an and, at the same time, compare it to the representation of this verb in the English translations of the Qur'an. The researcher used the available QAC website, which has a simple word quarry system and a morphologically annotated Qur'an, to collect examples of verses that include verbs in the Qur'an. The seven available translations, which appear beneath each verse in the QAC, were beneficial resources for a comparative study of the Arabic verb in the Qur'an. Hence, it should be acknowledged that the use of QAC facilitated the collection of data to be analysed and used in answering the research questions.

Once the data was collected, the researcher had to apply new techniques to distinguish this research from previous studies on the Arabic verb system—the majority of which relied on traditional analysis. Building a corpus of the Arabic verbs in the Qur'an has added physical proof to the claims about the Arabic verb system. In the comparative study of the Arabic aspect with the English tense and aspect, it is difficult sometimes to understand the function of the Arabic aspect in terms of time and action. This agrees with Eades and Watson's (2013) conclusion that it is hard to determine the function of the verb aspect in Arabic. Wright (1896) also confirms how difficult it was for him to determine any tense in the perfect and imperfect aspect as there are no verbal forms for tenses that can be used to indicate the action that is related to time in Arabic (see Section 2.4.3 for more information about these claims). Hence, applying the corpus-based methodology on this type of study was productive as it opened the researcher's mind to the developments in the field of Arabic corpus linguistics, particularly on the Qur'an. It also opened further possible avenues of research in this domain.

Another challenge the researcher faced was learning WEKA and SPSS. The researcher, whose background knowledge is in Arabic and comparative linguistics, had to undergo training in the use of these tools. Applying WEKA and SPSS in Arabic and comparative linguistics is common in collaborative projects between researchers who specialize in Arabic corpus linguistics and those from the School of Computing in the University of Leeds (see Appendix A).The experience of learning these tools has been invaluable and will benefit the researcher in her future research and professional life. Moreover, writing and publishing a series of papers that dealt with issues in the Arabic verb and analyses relevant to the exploration of this linguistic system have helped the researcher improve her research skills to a great extent. It has given her the motivation to further develop her methodology in future researches.

7.3. Suggestions for future studies

The aforementioned linguistic resources and the insights produced by this research may be valuable for future studies. For example, the machine-readable datasets can be used for further classification in WEKA and SPSS by adding more features or more translations of the Qur'an. More Arabic morpho-syntactic features that affect the tense and aspect of the English verbs have been added in the list of English morpho-syntactic features used in WEKA classification. (More linguistic features and examples can be found in Appendix C.) This research aimed to discover whether consideration of the different verb structures, participles, and auxiliary verbs in Arabic represents a method for improving the quality of translation into English in terms of tense and aspect. By discussing Arabic aspects and their corresponding tenses and aspects in English translations, this research attempted to clarify the primary associations between English tense/aspect and the Arabic morpho-syntax used with verbs. The discussion attempted to explain how the English tense classes combined with English morpho-syntax can parallel the Arabic aspects. The research offers a description of a model for English translations of Qur'anic Arabic perfect and imperfect aspects based also on the parallel English contextual references. (See Examples of the morpho-syntactic features used to translate the Arabic perfect/imperfect aspects in Chapter 6, Section 6.1.).

For each group of Arabic morpho-syntactic features, this research provides a frequency count of the most appropriate translations of the imperfect and perfect constructions. These numbers help to clarify how Arabic perfect/imperfect verbs tend to be rendered in English

aspects and tenses. For each section, at least three examples were examined, including their translations from Sahih International as a primary interpretation of each verse. The examples were presented in context, and the relevant verb phrases were highlighted under the verse using Excel. The different English translations were calculated to highlight the use of English morpho-syntactic features. It is suggested that the calculated results of the morpho-syntactic features serve as the base data for further study using WEKA in parallel with the collected data of the Arabic morpho-syntactic features. (See more examples of the statistical analysis in Electronic Appendix).

Similarly, the mixed methods approach of this research can be used in future studies on other morpho-syntactic features in Classical or Modern Standard Arabic corpora. Moreover, the list of strategies and recommendations for translators offered by this research can be utilised in further studies in translation studies, specifically on the evaluation of translations of the Qur'an. Other research could involve the analysis of other Classical literary texts and texts in Modern Standard Arabic to investigate the differences between the two language varieties. Also, the translation that was found to be the most agreed upon translation can be used for further study via diachronic and synchronic analyses of the translation of Classical Arabic in the Qur'an. Finally, a deeper level of analysis of the produced dataset with the features of the Arabic verb and its translation can be used in future studies to explore the historical features of the revelation of the Qur'an to investigate the evolution, for example, of tense and aspect in the *surah*s from the beginning of the revelation (the Makkan chapters) to those in the later period of the revelation (the Madinan chapters). The Makkan chapters repeatedly carry the initial philosophies of Islamic belief and the speech of God to the Prophet Muhammad while it expresses the extent of God's ability and His argument. This indicates the implication of the context, which often includes verbs to express that meaning, that may give a clear indication of the tense and aspect used to express it. In the Madinnah chapters, the sentences are long and unwieldy so that the hearer must listen carefully. The language has become prose with rhyming words at intervals. The subject matters are laws, comments on public events, statements of policy, and details of actions that will happen in the Day of Judgment. At the same time, the chapters contain the stories of the prophets in the past. This implies that the verses that talk about these past stories very often use the perfect aspect, and they often represent events as if they are happening now via imperfect aspect using the style of conversation between the participants of the story.

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Appendix A:

Example of the Training set

1. Examples of a training data set to build the classifier/predictive model using WEKA which contains 2927 Arabic Qur'anic verses containing the verbs *qāla* and *kāna,* as shown in the following examples:

Table a.1 Example of the Training set

file	ayah	Numbers	the verb	Morpho logical-analysis	the chapter	The verse	Sahih Intern ational	Pickthall	Yusuf Ali	Shakir
yaqūlu/ **يَقُولُ**	3rd person masculine singular imperfect verb/ indicative mood	the 68th verse of the Chapter (2) sūrat l-baqarah (The Cow)	**قَالَ إِنَّهُ يَقُولُ إِنَّهَا بَقَرَةٌ لَا فَارِضٌ وَلَا بِكْرٌ عَوَانٌ بَيْنَ ذَٰلِكَ**	says	saith	says	says	" Moses explained, "It must be neither too old nor too young	says	says
yaqūlu/ **يَقُولُ**	3rd person masculine singular imperfect verb/ indicative mood	the 69th verse of chapter 2 (sūrat l-baqarah)	**قَالَ إِنَّهُ يَقُولُ إِنَّهَا بَقَرَةٌ صَفْرَاءُ فَاقِعٌ لَوْنُهَا تَسُرُّ النَّاظِرِينَ**	says	saith	says	says	says	says	says
yaqūlu /**يَقُولُ**	3rd person masculine singular imperfect verb/ indicative mood	the 71st verse of chapter 2 (sūrat l-baqarah)	**قَالَ إِنَّهُ يَقُولُ إِنَّهَا بَقَرَةٌ لَا ذَلُولٌ تُثِيرُ الْأَرْضَ وَلَا تَسْقِي الْحَرْثَ**	says	saith	says	says	says	says	says

Example of the data set of the seven translations

2. The dataset includes the data set of the seven translations involved in the sub-Qur'anic Arabic Corpus. The Seven English translations count 20,489 translations in total which are used to evaluate the final model's presentation of English tense

and aspect translations. The translations are classified to their appropriate tense and aspect English categories as in :

Table a.2 Examples of Dev-test-set

Freq	Translation	Tense
370	say	PRS
189	will say	F
86	says	PRS
60	saying	N
51	what they say	PRS
41	shall say	F
36	said	P
30	or do they say	PRS
28	saith	PRS
21	speak	PRS
17	may say	PRS/P
17	what we say	PRS
14	would say	P
11	do they say	PRS
11	or they say	PRS
11	who say	PRS
10	will certainly say	F
10	will surely say	F

Example of the data set of linguistic features

3. The data set of linguistic features which are used to predict and select the model's features. The feature dataset involved the data of the linguistic features that are extracted from an amount of Arabic grammar traditional books; a specific WEKA algorithm feature was developed by a PhD student in the school of computing at the University of Leeds to extract linguistic features from the verses' contexts.[65] Most of these linguistic features are considered in the discussion of Qur'anic perfect and imperfect aspect functions in Chapter Five. [See Appendix C].

65 https://engineering.leeds.ac.uk/pgr/224/Abdulrahman_Alosaimy

Appendix B:

1. The analysis using the corpus analysis tool

In order to conduct the analysis, the data in the form of Excel files that were created to build the sub-corpus were saved as plain text (.txt) and thus made suitable to work with across multiple software programmes, such as Lancsbox, AntConc, and other digital software. Those corpus linguistics tools are examined in this analysis; however, those corpus tools do not always display the verb-corpus data clearly as the line contains Arabic text and its different translations. By the end, the corpus analysis tool such as Lancsbox tool is used to show a visualisation of the dissimilarity between the two languages in presenting tense and aspect, gender, person, number, and mood, which will show in their relative places in this chapter or the other chapters.

2. Lancsbox tool

Lancaster University developed the Lancsbox tool. It is used in the analysis of language data and corpora. It works with accessible data and is freely accessible to researchers. Per cent tool can be used with existing corpus or one's corpus. Anyone interested in language visualisation analysis, such as teachers, linguists, educators, etc., can use the Lancsbox tool. Lancsbox tool creates networks of words that collocate with each other (Brezina, 2018). The different translations of the critical verb used to translate it can, for the most part, be visualization. Lancsbox tool can be used in the procedure of choosing one node with its collocates. The complex collocates then gradually are increased by considering each collocater as a new node (Brezina, 2015).

Appendix C:

The Prefixes, Particle, and Time Adverbs Linguistic Context

Description of the prefixes, particle, and time adverbs linguistic features that can be used with Qur'anic perfect and imperfect aspect and change their function.

Most of the examples are taken from the Qur'an, and all Qur'anic translations are taken from Sahih International. The morph-syntactic features are extended in the table below, and the precise morph-syntactic features used with the research database are showed in Appendix F:

Table c.1 the prefixes, particle, and time adverbs linguistic context

Feature	Arabic	Meaning, Syntactic Function and Examples
	T – Time subordinators and time adverbs	
idhā *idh* *lammā* *yawma* *yawma-idhin* *qabla** *kullamā* *al-āna* *bukratan** *waḥīna** *ʿashiyyan** *ākhirahu** *adnā** *ayyāna* *bayātan** *ḥawlayni** *sāʿatan** *sinīna** *ṣubḥan** *kulla** *wajha** *ānāʔa** *ḥālan*** *ānifan***	إِذَا إِذ لَمَّا يَوْم يَوْمَئِذٍ * قَبْلَ كُلَّمَا الْآنَ بُكْرَةً حِينَ عَشِيًّا آخِرَهُ أَدْنَىٰ أَيَّانَ *بَيَاتًا *حَوْلَيْنِ *سَاعَةً *سِنِينَ *صُبْحًا * كُلَّ *وَجْهَ *آنَاءَ ** حالاً **آنفاً	These are particles or adverbs of time. Particles are placed at the beginning of the clause while adverbs may be placed at the beginning or at the end. Some are followed by a perfect verb; some are followed by an imperfect verb. Examples: **آمِنُوا بِالَّذِي أُنْزِلَ عَلَى الَّذِينَ آمَنُوا وَجْهَ النَّهَارِ وَاكْفُرُوا آخِرَهُ** Believe in that which was revealed to the believers at the beginning of the day **يَتْلُونَ آيَاتِ اللَّهِ آنَاءَ اللَّيْلِ وَهُمْ يَسْجُدُونَ** Reciting the verses of Allah during periods of the night and prostrating **قَالُوا الْآنَ جِئْتَ بِالْحَقِّ فَذَبَحُوهَا وَمَا كَادُوا يَفْعَلُونَ** They said, ''Now you have come with the truth.'' So they slaughtered her, but they could hardly do it. ****هَذَا مَا أَكَّدْتُهُ آنِفاً** This is what I just have confirmed
	ACC – The particle *inna* and related particles (**إنّ واخواتها**)	

laʿalla *layta* *inna* *anna* *lākinna* *ka-anna*	**لَعَلَّ** **لَيْتَ** **إِنَّ** **أَنَّ** **لٰكِنَّ** **كَأَنَّ**	These particles are known as ACC –accusative particles because the subject of *inna* and related particles is always in the accusative case. The predicate *khabar* could be a noun, adjective, prepositional phrase or verb *fiʿl* (**فعل**), which could be perfect or imperfect. A nominal predicate is always in the nominative case. Examples: **يَا لَيْتَنِي كُنْتُ مَعَهُمْ فَأَفُوزَ فَوْزًا عَظِيمًا** ''Oh, I wish I had been with them so I could have attained a great attainment.'' **إِنَّا جَعَلْنَاهُ قُرْآنًا عَرَبِيًّا لَعَلَّكُمْ تَعْقِلُونَ** Indeed, we have made it an Arabic Qur'an that you might understand. **وَمَا كَفَرَ سُلَيْمَانُ وَلَٰكِنَّ الشَّيَاطِينَ كَفَرُوا** It was not Solomon who disbelieved, but the devils disbelieved
V – The Verb *kāda* (**أفعال المقاربة والشروع والرجاء(كاد واخواتها**		
ʿasā, *kāda* *ʾaušakā* *ʾaxaḍa* *qāma* *šarʿa* *ṭafaqa* *jaʿala* *ʾaqabala*** *ḥariyy*** *aḥlwlaq*** *qāma*** *karaba*** *ʿanša'*** *inbaray*** *aqbala** *qāma**	**عَسَىٰ** **كاد** **أوشك** **أخذ** **بدأ** **شرع** **طفق** **جعل** **أقبل** **حرى** **اخلولق** **قام** **كرب** **أنشأ** **انبرى** **أَقْبَلَ** **قَامَ**	A group of verbs which is known as *kāda* and her sisters (**كاد واخواتها**). They indicate hope, to be near, to nearly do, and to almost do. They take a following imperfect verb. Examples: **مِنْ بَعْدِ مَا كَادَ يَزِيغُ قُلُوبُ فَرِيقٍ مِنْهُمْ** After the hearts of a party of them had almost inclined [to doubt]. **وَطَفِقَا يَخْصِفَانِ عَلَيْهِمَا مِنْ وَرَقِ الْجَنَّةِ** And they began to fasten together over themselves from the leaves of Paradise. ****أَنْشَأَ الرَّعْدُ يَقْصِفُ** It has begun to thunder ****إِخْلَوْلَقَ الشَّتَاءُ أَنْ يَنْقَضِي** The winter has nearly finished **وَأَقْبَلَ بَعْضُهُمْ عَلَىٰ بَعْضٍ يَتَسَاءَلُونَ** And they will approach one another blaming each other
V – The Verb *kāna* (**كان واخواتها**)		
kāna *laysa* *ṣāra* *ʿaṣbaḥa* *ʾaḍḥā* *ʿamsā* *ẓalla* *bāta*	**كَانَ** **لَيْسَ** **صار** **أَصْبَحَ** **أَضْحَى** **أَمْسَى** **ظَلَّ** **باتَ**	A group of words known as *kāna* and her sisters (**كان واخواتها**). The subject of *kāna* and her sisters is in the nominative. The predicate *khabar* could be a noun, adjective, prepositional phrase or verb *fiʿl* (**فعل**), which could be perfect or imperfect. A nominal predicate is always in the accusative case. They indicate an action that happens at a specific time of the day, and their translations are: 'be', 'not be', 'reach', 'become', 'reach morning', 'reach forenoon', 'reach evening', 'become', and 'spend the night', respectively. Examples: **وَلَهُمْ عَذَابٌ أَلِيمٌ بِمَا كَانُوا يَكْذِبُونَ** And for them is a painful punishment because they [habitually] used to lie. **وَلَوْ فَتَحْنَا عَلَيْهِمْ بَابًا مِنَ السَّمَاءِ فَظَلُّوا فِيهِ يَعْرُجُونَ** Sahih International: And [even] if We opened to them a gate from the heaven and they continued therein to ascend,

		وَأَنَّكَ لَا تَظْمَأُ فِيهَا وَلَا تَضْحَى And indeed, you will not be thirsty therein or be hot from the sun.'' **وَأُحِيطَ بِثَمَرِهِ فَأَصْبَحَ يُقَلِّبُ كَفَّيْهِ** Sahih International: And his fruits were encompassed [by ruin], so he began to turn his hands
4. V- Verbs of remaining and continuing **أفعال الديمومة والاستمرارية**		
mā zāla *mā bariḥa* *mā fati'ay* *mā infakka* *mā dāma*	**مازالَ** **ما بَرِح** **ما فتِئَ** **ما انفكَّ** **مادامَ**	These verbs are related to *kāna* and her sisters (**كان واخواتها**). The subject of *kāna* and her sisters is in the nominative. The predicate *khabar* could be a noun, adjective, prepositional phrase or verb *fi'l* (**فعل**), which could be perfect or imperfect. A nominal predicate is always in the accusative case. They indicate continuity, endurance, persistence, remaining. Examples: **لَوْ نَشَاءُ لَجَعَلْنَاهُ حُطَامًا فَظَلْتُمْ تَفَكَّهُونَ** Sahih International: If We willed, We could make it [dry] debris, and you would remain in wonder, **وَلَقَدْ جَاءَكُمْ يُوسُفُ مِنْ قَبْلُ بِالْبَيِّنَاتِ فَمَا زِلْتُمْ فِي شَكٍّ مِمَّا جَاءَكُمْ بِهِ** And Yusuf had already come to you before with clear proofs, but you remained in doubt of that which he brought to you **قَالُوا تَاللَّهِ تَفْتَأُ تَذْكُرُ يُوسُفَ حَتَّىٰ تَكُونَ حَرَضًا** They said, ''By Allah, you will not cease remembering Yusuf until you become fatally ill
COND – Conditional Expressions (**شرط**)		
man *'iḏā* *mā* *kayfamā* *'in* *matā* *mahmā* *ayyāna* *law* *lawlā* *ammā* *illam* *immā* *ayyamā* *innamā* *ḥaythu*	**مَن** **إذَا** **مَا** **كيفما** **إن** **متى** **مَهْمَا** **أَيَّانَ** **لَوْ** **لَوْلَا** **أَمَّا** **إِلَّم** **إِمَّا** **أَيَّمَا** **إِنَّمَا** **حَيْثُ**	These are COND –conditional particles. They take a following verb in the perfect aspect or the jussive mood. They usually denote a future time, depending on the context. 'The word *idhā* (**إذا**) is tagged as a time adverb *ẓarf zamān* (**ظرف زمان**) since it is a COND –conditional particle used in a temporal sense'. Examples: **إِنْ أَحْسَنْتُمْ أَحْسَنْتُمْ لِأَنْفُسِكُمْ وَإِنْ أَسَأْتُمْ فَلَهَا** If you do good, you do good for yourselves **إِذَا قُمْتُمْ إِلَى الصَّلَاةِ فَاغْسِلُوا وُجُوهَكُمْ وَأَيْدِيَكُمْ** when you rise to [perform] prayer, wash your faces and your forearms **فَمَنْ زُحْزِحَ عَنِ النَّارِ وَأُدْخِلَ الْجَنَّةَ فَقَدْ فَازَ** So he who is drawn away from the Fire and admitted to Paradise has attained
SUB – Subordinating Prefix and particle Conjunctions		
lan *kay* *la-* *fa-* *ḥattā* *idhan* CAUS – Causative particle *fa-li*	**لَن** **كي** **لام الجحود** **فاء السببية** **حَتَّىٰ** **إذن** **فَـ السببيةَ** **لام التعليل**	These particles take a following verb in the subjunctive mood. They indicate intent, purpose, expectation, permission, possibility or necessity. Examples: **وَإِذْ قُلْتُمْ يَا مُوسَىٰ لَنْ نُؤْمِنَ لَكَ حَتَّىٰ نَرَى اللَّهَ جَهْرَةً** when you said, ''O Moses, we will never believe you until we see Allah outright'' **لِيَكْفُرُوا بِمَا آتَيْنَاهُمْ وَلِيَتَمَتَّعُوا فَسَوْفَ يَعْلَمُونَ** So that they will deny what we have granted them, and they will **سأزورك غدًا، إذَنْ أنتظرك**

		I will visit you tomorrow so that I will wait for you
EXH – Exhortation particles		
EXH – *lawlā* INTG+NEG-*alā* COND+ NEG-*law+ mā* EXH-*hallā*	**لَوْلَا** **ألاّ** **لَّومَا** ***هلاّ**	These words are exhortation particles. A verb follows them in the indicative mood. Examples: **لَوْلَا تَسْتَغْفِرُونَ اللَّهَ لَعَلَّكُمْ تُرْحَمُونَ** Why do you not seek forgiveness of Allah that you may receive mercy?'' **هلاّ تفعل الخير للناس** *Why do you not make a kindness for people?
CERT – Particle of certainty		
qad+ yakūnu *qad+ kāna* *sa-ya-kūn + qad* *sawfa + yakūnu +qad* *yakūnu +qad* *kāna+ qad*	**قَدْ** **قد كان** **سيكون قد** **قد كاد** **قد يكون** **كان قد فعل** **يكون قد** **سوف يكون قد**	It is a particle of certainty. *qad* takes a following perfect verb or imperfect verb in the indicative mood. Examples: **وَلَقَدْ أَنْزَلْنَا إِلَيْكَ آيَاتٍ بَيِّنَاتٍ** And We have certainly revealed to you verses [which are] clear proofs **قَدْ يَعْلَمُ اللَّهُ الَّذِينَ يَتَسَلَّلُونَ مِنْكُمْ لِوَاذًا** Already Allah knows those of you who slip away.
FUT – Future particle		
sawfa	**سوف**	This particle takes a following imperfect verb in the indicative mood to form the future tense. Examples: **وَسَوْفَ يُؤْتِ اللَّهُ الْمُؤْمِنِينَ أَجْرًا عَظِيمًا** And Allah is going to give the believers a great reward.
INTG – Interrogative particles		
hal *matā* *'a* *'ayyāna* *kayfa*	**هَلْ** **مَتَىٰ** **أهمزة الاستفهام** **أَيَّانَ للاستفهام** **كَيْفَ**	These particles may be used to form an interrogative sentence. The perfect and imperfect verbs are taken places after these articles. Examples: **وَكَيْفَ تَأْخُذُونَهُ وَقَدْ أَفْضَىٰ بَعْضُكُمْ إِلَىٰ بَعْضٍ** And how could you take it while you have gone in unto each other and they have taken from you a solemn covenant? **قُلْ هَلْ نُنَبِّئُكُمْ بِالْأَخْسَرِينَ أَعْمَالًا**''Shall we [believers] inform you of the greatest losers as to [their] deeds?

		أَمْوَاتٌ غَيْرُ أَحْيَاءٍ وَمَا يَشْعُرُونَ أَيَّانَ يُبْعَثُونَ Sahih International: They are, [in fact], dead, not alive, and they do not perceive when they will be resurrected.
N – nominative noun **رُّب**		
rruba	**رُّب**	The perfect aspect is placed after a noun *rrubba* and preventive particle usually. Usually, the noun *rrubba* is used with perfect aspect to confirm that the action has already happened. However, in the following example, the noun *rrubba* is used with imperfect aspect. The grammarians confirm that it is acceptable to use the noun *rrubba* + *mā* here with the imperfect aspect, because the future is known by Allah as in the past, and it is said: it is a representation of a situation that happened in the past (Ibn Hišām, 1990): Example: **رُبَمَا يَوَدُّ الَّذِينَ كَفَرُوا لَوْ كَانُوا مُسْلِمِينَ** Perhaps those who disbelieve will wish that they had been Muslims
NEG – negative particle		
in	**إن**	The imperfect aspect is placed after *in* to negate the action at the moment of speaking. Example: **قُلْ إِنْ أَدْرِي أَقَرِيبٌ مَا تُوعَدُونَ أَمْ يَجْعَلُ لَهُ رَبِّي أَمَدًا** Sahih International: Say, ''I do not know if what you are promised is near or if my Lord will grant for it a [long] period.''
PRO – prohibition particle *lā*		
lā	**لا الناهية**	Placing the imperfect aspect after *lā* creates the meaning of forbidding somebody to do something in an imperative expression, jussive mood. Example: **فَلَا تَقُلْ لَهُمَا أُفٍّ وَلَا تَنْهَرْهُمَا وَقُلْ لَهُمَا قَوْلًا كَرِيمًا** Say not to them [so much as], ''uff,'' and do not repel them but speak to them a noble word.
The imperative *lām* prefix + imperfect aspect		
lām	**لا الأمر**	An imperative may also be formed using an imperfect verb in jussive mood by prefixing the verb with the imperative *lām* prefix. Example: **فَلْيَتَّقُوا اللَّهَ وَلْيَقُولُوا قَوْلًا سَدِيدًا** So let them fear Allah and speak words of appropriate justice.
A command or request (**أمر**)		
		An imperative expression may be either a command or request (**أمر**) and can be expressed with imperfect aspect. Example: **قُلْ مَا أَنْفَقْتُمْ مِنْ خَيْرٍ فَلِلْوَالِدَيْنِ وَالْأَقْرَبِينَ** Say, ''Whatever you spend of good is [to be] for parents and relatives and orphans and the needy and the traveler. And whatever you do of good - indeed, Allah is Knowing of it.''

Table c.2: Morphological Features

Prefixes			
Tag	Translite ration	Arabic Name	Segment part-of-speech / description and Description
EMPH	*la-*	لام التوكيد	A particle of emphasis. The imperfect aspect occurs after the emphatic prefix *lām la-*, and is in the indicative mood. Example: 1. وَإِنَّكَ لَتَهْدِي إِلَىٰ صِرَاطٍ مُسْتَقِيم you guide to a straight path
EQ	*'a-*	أ همزة التسوية	EQ – prefixed equalisation particle (''whether'') The perfect and imperfect verbs follow the equalisation particle Example: 1. سَوَاءٌ عَلَيْنَا أَجَزِعْنَا أَمْ صَبَرْنَا مَا لَنَا مِنْ مَحِيصٍ It is all the same for us whether we show intolerance or are patient: there is for us no place of escape.''
FUT	*sa-*	السين	The future prefixed particle is followed by the imperfect verb. Example: 1. عَلِمَ أَنْ سَيَكُونُ مِنْكُمْ مَرْضَىٰ وَآخَرُونَ يَضْرِبُونَ فِي الْأَرْضِ He has known that there will be among you those who are ill and others travelling throughout the land seeking
CONJ	*wa-*	وَ (واو العطف) فَ (فاء العطف)	The conjunctions *wa-* or *fa-* can conjoin phrases and clauses. The perfect or imperfect aspect is placed after the conjunctions. Examples: 1. عَبَسَ وَتَوَلَّىٰ

			The Prophet frowned and turned away
Person, gender, number			
P+G+N	*ya-ta-na-'a*	يـ -تـ -نـ -أ	They are inflectional markers that refer to person, gender, number of an imperfect verb (فعل مضارع). Examples: قَالَ إِنَّهُ يَقُولُ إِنَّهَا بَقَرَةٌ لَا ذَلُولٌ تُثِيرُ الْأَرْضَ He said, ''He says, 'It is a cow neither trained to plough the earth nor to irrigate the field, one free from fault with no spot upon her.

Root

Indicates the (usually triliteral) root of a word, for example ROOT: ktb			
Verb (form I)	*qāla*	قَالَ	The verb form 1 from the triliteral root *qāf wāw lām* (ق و ل)
Verb (form I) - to be	*kāna*	كَانَ	The verb form 1 from the triliteral root *kāf wāw nūn* (ك و ن)
- Exhortation Particle أفعال الدعاء			
V –	فَعَلَ	*f a ʿa l a*	سَبَّحَ لِلَّهِ مَا فِي السَّمَاوَاتِ وَالْأَرْضِ وَهُوَ الْعَزِيزُ الْحَكِيمُ Whatever is in the heavens and earth exalts Allah, and He is the Exalted in Might, the Wise.

Appendix D:

1. *The Extended Buckwalter Transliteration*

(Qur'anic Arabic Corpus): The extended Buckwalter transliteration scheme is shown in table F.1.

Table d.1 The extended Buckwalter transliteration

UNICODE	BUCKWALTER	
Glyph	ASCII	Orthography
ء	'	Hamza
أ	>	Alif + HamzaAbove
ؤ	&	Waw + HamzaAbove
إ	<	Alif + HamzaBelow
ئ	}	Ya + HamzaAbove
ا	A	Alif
ب	b	Ba
ة	p	TaMarbuta
ت	t	Ta
ث	v	Tha
ج	j	Jeem
ح	H	HHa
خ	x	Kha
د	d	Dal
ذ	*	Thal
ر	r	Ra
ز	z	Zain
س	s	Seen
ش	$	Sheen
ص	S	Sad
ض	D	DDad
ط	T	TTa
ظ	Z	DTha
ع	E	Ain
غ	g	Ghain

ـ	_	Tatweel
ف	f	Fa
ق	q	Qaf
ك	k	Kaf
ل	l	Lam
م	m	Meem
ن	n	Noon
ه	h	Ha
و	w	Waw
ى	Y	AlifMaksura
ي	y	Ya
ً	F	Fathatan
ٌ	N	Dammatan
ٍ	K	Kasratan
َ	a	Fatha
ُ	u	Damma
ِ	i	Kasra
ّ	~	Shadda
ْ	o	Sukun
ٓ	^	Maddah
ٔ	#	HamzaAbove
ٰ	`	AlifKhanjareeya
ٱ	{	Alif + HamzatWasl
ۡ	:	SmallHighSeen
ۥ	@	SmallHighRoundedZero
ۦ	‘’	SmallHighUprightRectangularZero
ۢ	[	SmallHighMeemIsolatedForm
۫	;	SmallLowSeen
ۥ	,	SmallWaw
ۧ	.	SmallYa
ۨ	!	SmallHighNoon
۪	-	EmptyCentreLowStop
۬	+	EmptyCentreHighStop

▪	%	RoundedHighStopWithFilledCentre
۴	]	SmallLowMeem

Appendix E:

1. *The published paper of the comparative analysis using Google translate between Arabic and English*

More examples and details of the comparative analysis using Google translate between Arabic and English can be found in the published paper: Alasmari J; Watson J; Atwell E (2017) A comparative analysis of verb tense and aspect in Arabic and English using Google Translate. *International Journal on Islamic Applications in Computer Science and Technology*, 5 (3), pp. 9-14.

Appendix F

1. *More experiments using WEKA*

Correlation attributes is a technique used to establish the most significant attributes in the dataset which have a moderate-to-high positive or negative correlation close to -1 or 1, whereas a near-zero value indicates attributes with a low correlation (Brownlee, 2016). 16 features offer the highest correlation, while the rest show low correlation. The output information of the attribute selection can be seen in the following:

Ranked attributes66:

Table F.1: Information Gain Ranking Filter

1	*qad* قد	1	*anšā'* أنشأ
1	*yawma* يوم	1	*mā*-NEG ما النافية
1	*mă almasdaryah* ما المصدرية	1	*Tafaq* طفق
1	IMPV imperative aspect	1	*laysa* ليس
1	*law* لوالشرطية	1	*lā*-NEG لا النافية
1	*axaḏa* أخذ	1	-s-FUT السين
1	*qām* قام	1	*sawf*a سوف
1	*lawlā* لولا	1	aspect-IMPF imperfect aspect
1	*ayna* أين		

- Another technique was used within the ranker search method to calculate the data to trace details of the 10-20 best attributes (features) that are relevant to making predictions: the information 'gain-based feature selection'. The information gain can be used to do a calculation for each attribute for the output variable, any relevant information that could be string or numeric.
- . The value 0 means *no information*; the features that have a lower score do not add much information and can thus be removed. This means that this feature cannot

66 classified attributes

influence the prediction in any way, while a value of up to 1 signifies maximum information, and so the features can be selected (Brownlee, 2016). The attributes are selected as follows:

Ranked attributes:

Table F.2: Ranked attributes:

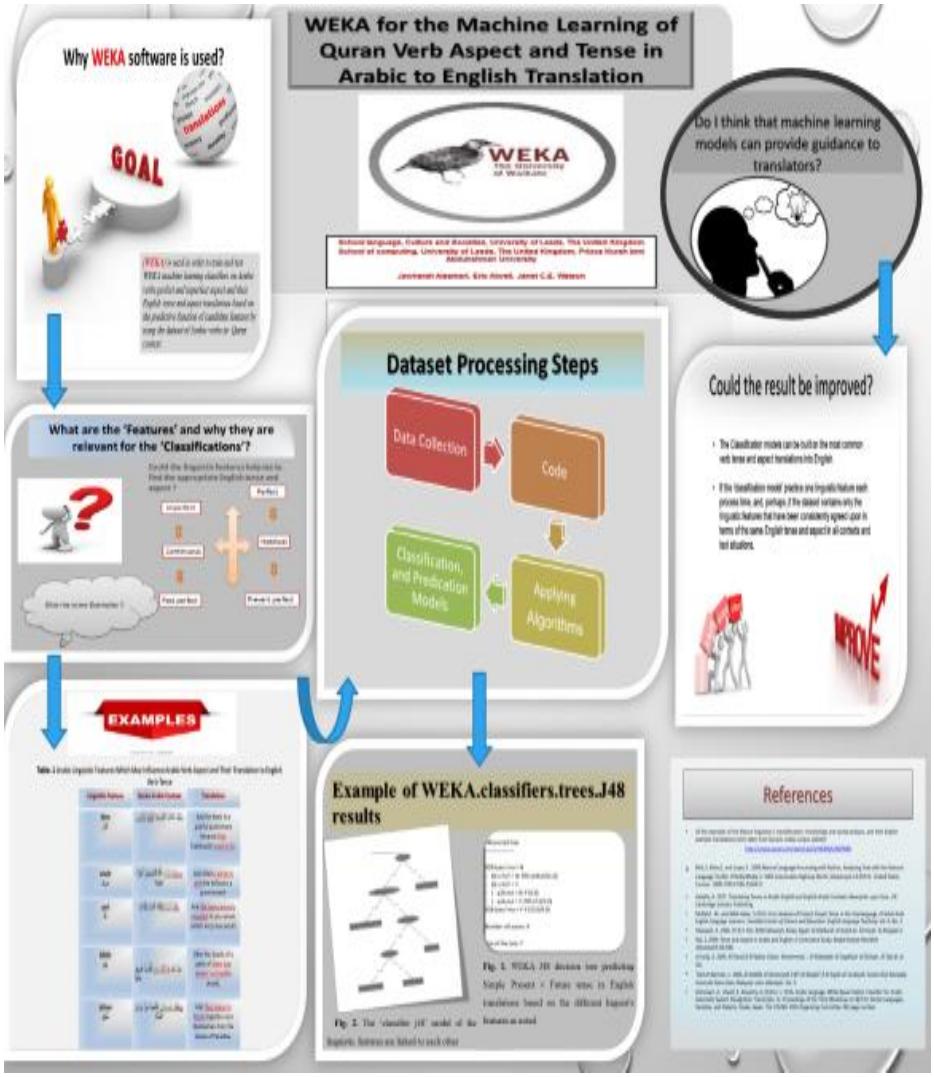
0.2977	*qām*
0.2275	*ânšâ*
0.1167	*âyn*
0.1894	*σsý*
0.165	*an*
0.1642	*tafaq*
0.1522	*lawlā*
0.1457	*yawma*
0.1313	*impv*
0.0824	*laysa*
0.0809	s-fut
0.0704	*axaḏa*
0.1753	*law*
0.058	*lā-neg*
0.1051	*mā-neg*
0.1173	*lσl*
0.0764	*jσl*
0.1056	*mā-al-maṣdarīyah*
0.0959	*innamā*
0.0347	*qad*
0.0673	*sawfa*

It can be seen that 21 attributes are providing information with variable values between 0.2977, by the feature *qām* قام, and 0.058, which is the lowest value for the *lā*-NEG. In this case, we can say that these features are more effective than others. It is possible then to save these filtered features to a new file and work with it directly. To develop simpler

models or better predictions, or both, feature selection is a technique of cutting down the number of variables contributing to the model (Brownlee, 2016).

- *The poster of WEKA for the Machine Learning of Qur'an Verb Aspect and Tense in Arabic to English Translation*

WEKA for the Machine Learning of Qur'an Verb Aspect and Tense in Arabic to English Translation, In: *The International Corpus Linguistics Conference 2019, Cardiff University (23-27 July 2019)*, which was also presented in *ICONQUHAS 2018 conference*.



F.1 The poster of WEKA for the Machine Learning of Qur'an Verb Aspect and Tense in Arabic to English Translation

- *A comprehensive list of the labels for tense and aspect used in both English and Arabic*

This table shows some Qur'anic Arabic verb complementation aspect patterns with auxiliary verbs and participles by providing the results of the most agreement English translations used to translate those patterns.

Table F.3: A comprehensive list of the labels for tense and aspect used in English and Arabic

Arabic tense	Example in Arabic	English tense in translation
Perfect aspect		
The past simple **الماضي المطلق** The NEG- particle *mā* before a verb in the jussive mood usually negates the action and places it in the past. Thus, 'he does' يَفْعَل becomes 'he did not do.'	**فعل** *fa'ala*	past simple tense he did
The recent past or the past that concludes in the present **الماضي المنتهي بالحاضر**	**(1) قد+ فعل** *qad fa'ala*	perfect present tense sure, he has done
The confirm distant past **تأكيد الماضي البعيد**	**(2) قد+فعل** *qad fa'ala*	past perfect tense sure, he has done
The distant past action that is not	**كان + فعل** *kāna fa'ala*	past perfect tense he had done

related to the present time, or the story of the past actions **حكاية الماضي الروائي**		
The recent past action that is not related to the present time **الماضي القريب غير المقيد**	**(1) قد + كان + فعل** *kāna qad fa'ala*	present perfect tense he has done
The verb *kāna* with *qad* is used to confirm that an event had happened and finished in the distant past Some references argue that both **كان + قد +فعل** *kāna qad fa'ala* **كان + فعل** *kāna fa'ala* denote a distance past, and basically, they mean the same things	**(2) كان + قد +فعل** *kāna qad fa'ala*	past perfect tense he had done sure, he had done

The limited future actions **الحدث الروائي المقيد**	**يكون+ قد+ فعل** *yakunu qad faʿala*	future perfect tense he will have done
The construction NEG-negative particle *lam* + *yakūnu/takūnū* + perfect aspect, while the verbs *yakūnu/takūnū* are used to indicate an action that started in the past, but with effects that continue in the present or at the moment of speaking The NEG-negative particle *lam* is used to indicate negative meaning.	**لم+ يكن+ قد+ فعل** *lam yakūnu/takūnū faʿala*	present perfect tense he has not done
The verb *ʿasā* refers to possibility or probability. The perfect aspect is used in the conditional clause with the verb *ʿasā* + COND-conditional particle *in* to indicate what might have	**عسى** *ʿasā*	The adverb ‘perhaps’ or the modal verb ‘may’ + the conditional clause using the construction ‘if’ + past simple is the most agreement used in the example translations for the conditional clause. The future past, used with the modal ‘would’, is the most agreement used in the example translations for the main clause

happened, what we hope would have happened or what will happen.		
The construction of *inna* with or without *qad* + the perfect aspect is used to indicate that an action is undoubtedly happening or that it has indeed happened. **الماضي المؤكد حدوثه**	**إن** + *fa'ala* *inna* + perfect aspect	past simple tense sure, he did present perfect tense sure, he had done
The interrogatives INTG – *hal* هل *alif* ألف can be used to indicate an action in the past, which could be recent or distant past.	– *hal* **هل** or *alif* **ألف** + *fa'ala*	past simple tense he did present perfect tense he has done
In nominal sentences, the verb كان'to be' and its 'sisters' in the perfect aspect ('*kāna wa akhawatuha'*: *kāna, zālla, bāta, aḍḥā, aṣbaḥa, sāra, dāma,* etc.) can be used to indicate different meanings, depending on the context.		

The verb *kāna* is used to indicate 'continuity without a certain time' (Ḥasan, 1975). Tawāmah (1994, 46) defines الزمن الدائم الذي لاينقطع, 'permanent time that never stops.'	**كان** *kāna*	The present simple tense using the adverb 'ever' is the most agreement translation used in the example translations into English he is
The verb *mā dāma* can be used to refer to the intended duration of an action or event in time.	**ما دام** *mā dāma*	The present simple tense using the conjunction 'ever', 'as long as' or 'wherever' is the most agreement translation used in the example translations into English
Imperfect aspect		
The action that is happing right now, and continue /imperfect aspect **الحال المستمر**	**(1) يفعل** *yafʿalu*	present progressive tense he is doing
The Arabic bare imperfect aspect is used primarily when describing repeated or habitual actions	**(2) يفعل** *yafʿalu* in the Quranic context: this meaning can be used with imperfect aspect to refers to the tasks Muslims have to fulfil during their lives, such as prayer,	present simple tense he does

الحال المنتظم المعتاد حدوثه	fasting, charities, welcoming others to Islam, giving trustworthy guidance, studying, making money, auxiliary others, etc., which are all habitual activities, e.g.: **إِيَّاكَ نَعْبُدُ وَإِيَّاكَ نَسْتَعِينُ** Sahih International: It is You we worship and You we ask for help.	
The Arabic bare imperfect aspect is used to indicate facts or systematic truths. **الحال الواقعي**	**(3) يفعل** *yafʿalu* For example: **والله يقولُ الحقَ** Sahih International: he says the truth.	present simple tense he does
The present action that is related to the moment of speaking or the action that is happing right now/imperfect aspect **الحال المقيد بزمن المخاطب أو المتكلم**	**(4) نفعل** *nafʿalu*	present simple tense we do
The verbs *kāna, aṣbaḥa, ẓalla*, etc., followed by a verb in the imperfect aspect, could be used to indicate an action that occurred at some point in the past, as in:		

continued action in the past /imperfect aspect **الماضي المستمر** The NEG – negative particle *lam* لم + the verb *ya-kun* يـ-كن can be used to express the meaning of inability in the past	**كان يفعل** *kāna yafʿalu*	past continuous tense he was doing
The past action that continues until the moment of speaking or at a specific point in the future **الماضي المتصل بزمن المتكلم أو المستقبل**	**(1) مازال يفعل** *māzāla yafʿalu*	future simple + not + (cease) + infinitive/participle he will cease
mā+yazālu: is used to denote the continuation, renewal meaning in the expected event that would be happening in the present or future **المستقبل المحتمل حدوثه**	**(2) مازال يفعل** *māzāla yafʿalu*	The adverbs ‘still’, ‘always’, ‘will’+ not/never + cease + will continue being used in the example translations into English He still does

the verb *ṭafiqa* **طفق**, + the imperfect aspect, which is used to indicate an action that has already started **الماضي القريب وقوعه**	**طفق يفعل** *ṭafiqa yafʿalu*	The past simple tense ‘began’ + the infinitive construction is the most agreement translations used in the example translations into English he began to do
ẓalla + imperfect aspect can be used to indicate possibility or permission in future or to indicate an ongoing action in the past **الماضي المستمر أوالماضي المرتبط بالمستقبل**	**ظل يفعل** *ẓalla yafʿalu*	the past future tense is the most translation used in the example translations and the past progressive tense he was going to do he would do
The verb **أصبح** *aṣbaḥa/amsā* + the imperfect aspect is used to denote that the actions happened in the morning or to indicate ‘to become.’ **الماضي الحادث في الصباح**	**أصبح يفعل** *aṣbaḥa yafʿal*	the past + infinitive and the past + gerund are the most translation translations he became
The future negative tense **المستقبل المقيد السلبي**	*lan yafʿal* **لَن يفعل**	the adverb ‘never’ or ‘not’ + the future simple tense he will not

Talking about the future in a narrative style. **حكاية المستقبل الروائي**	**ما كان لـ يفعل** *mā kāna liyafʿalu*	past future perfect tense he would not do
the action that comes as a penalty for the condition and maybe in the past or present **المستقبل المعلق** So, the verb is used to indicate what may have happened or what you wish would have happened	**إن فعل فعلت** **إن تفعل يفعل** For example: **وَإِنْ يَأْتُوكُمْ أُسَارَىٰ تُفَادُوهُمْ** Sahih International: If they come to you as captives, you ransom them.	future bound tense if you do, he will do
the NEG – negative prefix *li-lām* is used with an imperfect aspect, an action that is happening in the present usually changes to one in the future; the action might take place in the near or the distant future	**ليفعل** *li- lām + yafʿal* for example: **فَلْيَعْبُدُوا** Sahih International: Let them worship	let+ present simple tense let them do

The action has just happened. Close past **الماضي المقارب**	verb+ time adverbs such as **الآن** 'now.'	present perfect tense it has now done
• The unconditional distant future **المستقبل البعيد المطلق** • The unconditional near future **المستقبل القريب المطلق**	**السين وسوف** *sawfa, sa* + imperfect aspect	future simple tense he will do
The time adverb *ʾiḏ* إذ 'may' is used with the help of the context to refer to the actual time of action in the past/present. **الماضي أو الحاضر المقيد بزمن محدد**	**إذ يفعل/فعل** *iḏ yafʿal*	'when' +past/present simple tenses when happened
The time adverb *qablu* قبل is used with the main verb, auxiliary verb, particle, etc., to indicate an action	***قَبْل يفعل*** *qabl yafʿal*	The simple past tense and the perfect past tense using the adverb 'aforetime' are the most agreement translations used in the translations into English

that happened for a long time. **الماضي الذي حدث قبل حدث آخر في الزمن البعيد**		

Table F.4: The full list of contextual morpho-syntactic features used for the decision tree in WEKA

آنفاً *ānifan* N – accusative masculine indefinite noun
ليس *laysa* V – The Verb *kāna* and her sisters
إنَّ *inna* ACC – accusative particle
ما *mā* NEG – negative particle
إذا *idhā* T – Time subordinators and time adverbs
لام الابتداء لـ *la* REM – prefixed resumption particle
إنْ *in* COND – conditional particle
طفق *ṭafiqā* V – 3rd person masculine dual perfect verb
شرع *šaraʿa* V – 3rd person masculine dual perfect verb
أنشأ *anšā'* V – 1st person plural (form IV) perfect verb
عسى *aʿasā* V – 3rd person masculine singular perfect verb
أوشك *'aušakā* V – The Verb *kāda* and her sisters
جعل *ja'ala* V – The Verb *kāda* and her sisters
هب *haba* V – The Verb *kāda* and her sisters
علق *'alaga* V – The Verb kāda and her sisters
هلهل *halhala* V – The Verb *kāda* and her sisters
أخذ *'axaḏa* V – The Verb *kāda* and her sisters
قام *qāma* V – The Verb kāda and her sisters
أقبل *'aqabala* V – The Verb kāda and her sisters
إذا- *idhā* SUR – surprise particle
حتى *ḥattā* P – preposition
ما المصدرية *mā* REL – relative pronoun
أنما *annamā* ACC – accusative particle
الآن *al-āna* T- time adverb
الياء *ya* V – 3rd person masculine singular imperfect verb

إذ -*idh* T – Time subordinators and time adverbs
لولا *lawlā* EXH – exhortation particle
لام التعليل SUB – Subordinating Prefix and particle Conjunctions
إذاً- *idhan* ANS – answer particle
ف *fa* REM – prefixed resumption particle
لا *lā* NEG – negative particle
سـ *sa* FUT – future particle
سوف *sawfa* FUT – future particle
لـ- IMPV – prefixed imperative particle *lām*
أدعو *adʿū* V – 1st person singular imperfect verb
أتمنى *atmanā* V – 1st person singular imperfect verb
إلا *illa* RES – restriction particle
حرى *ḥariyy* V – The Verb kāda
لعل *laʿalla* ACC – The particle *inna* and related particles
اللام- PRP – prefixed particle of purpose *lām*
لئن - EMPH – emphatic prefix *lām* COND – conditional particle
لن -NEG – negative particle
كي SUB – subordinating conjunction
إذن *idhan* SUB – subordinating prefix and particle conjunctions
أو *aw* CONJ – coordinating conjunction
إنْ *an* SUB – subordinating conjunction
منْ *man* COND – conditional noun
متى *matā* INTG – interrogative noun
ما *mā* INTG – interrogative noun
أين *ayna* INTG – interrogative noun
لو *law* COND- Conditional expression particles
كيف *kayfa* INTG – interrogative noun
ليت *layta* ACC – accusative particle
هل *hal* EXH – Exhortation particles
لم *lam* NEG – negative particle
يَوْمَ *yawm* T - accusative masculine time adverb → Day of Resurrection
قد *qad* CERT – Particle of certainty
يومئذ *yawma-idhin* T – time adverb
أيان *ayyāna* COND – Conditional Expressions
لما *lammā* T – time adverb

ع ذ ب V – 3rd person masculine singular perfect verb
غ ف ر V – 3rd person masculine singular perfect verb
النون EMPH – emphatic suffix *nūn*
كلما *kullamā* T – time adverb
كَانَ *kāna* V – The Verb *kāna* and her sisters
أَمْسَى *amsā* V – The Verb *kāna* and her sisters
أَصْبَحَ *'aṣbaḥa* V – The Verb *kāna* and her sisters
أَضْحَى *'aḍḥā* V – The Verb *kāna* and her sisters
ظَلَّ *ẓalla* V – The Verb *kāna* and her sisters
بَاتَ *bāta* V – The Verb *kāna* and her sisters
صَار *ṣāra* V – The Verb *kāna* and her sisters
أَنْ لَمْ *an+lam* SUB – subordinating conjunction+ NEG – negative particle
لمّاالجازمة *lammā* NEG – negative particle
أَمَّا *ammā* COND – conditional particle
لو *law* SUB – subordinating conjunction
lā لا الناهية PRO-Prohibition particle

The full list of contextual morpho-syntactic features used for the decision tree ‘result in WEKA (the features here are written using the extended Buckwalter transliteration scheme which is shown in Appendix D).

Table F.5: Weka. Classifiers. trees. J48

=== Run information ===

Scheme: weka. classifiers. trees. J48 -C 0.25 -M 2
Relation: LCCvsLCSH-weka. filters. unsupervised. attribute. StringToWordVector-R4,5-W1000-prune-rate-1.0-N0-stemmerweka. core. stemmers. NullStemmer-M1-tokenizerweka. core.tokenizers.WordTokenizer -delimiters " \r\n\t.,;:\'\"()?!"-weka.filters.unsupervised.attribute.Remove-R120-1183
Instances: 2927
Attributes: 117 [list of attributes omitted]
Test mode: 10-fold cross-validation

=== Classifier model (full training set) ===

J48 pruned tree

---

aspect-IMPV = N

| wordid <= 1

| | aspect-PERF = N

| | | s-FUT = N

| | | | sorahid <= 68: present_simple (21.0/4.0)

| | | | sorahid > 68: future (6.0/1.0)

| | | -s-FUT = Y : future (7.0/1.0)

| | aspect-PERF = Y

| | | sorahid <= 29

| | | | sorahid <= 6

| | | | | sorahid <= 5

| | | | | | ayahid <= 76

| | | | | | | sorahid <= 2 : past_simple (9.0)

| | | | | | | sorahid > 2

| | | | | | | | ayahid <= 55 : past_simple (9.0/2.0)

| | | | | | | | ayahid > 55 : present_simple (2.0)

| | | | | | ayahid > 76

| | | | | | | sorahid <= 4

| | | | | | | | ayahid <= 151 : present_simple (8.0/1.0)

| | | | | | | | ayahid > 151

| | | | | | | | | ayahid <= 228 : future (2.0/1.0)

| | | | | | | | | ayahid > 228 : past_simple (2.0)

| | | | | | | sorahid > 4 : past_simple (5.0/2.0)

| | | | | sorahid > 5 : present_simple (5.0)

| | | | sorahid > 6

| | | | | sorahid <= 22 : past_simple (226.0/23.0)

| | | | | sorahid > 22

| | | | | | sorahid <= 25

| | | | | | | ayahid <= 94

```
|  |  |  |  |  |  |  |  sorahid <= 24 : past_simple (6.0/1.0)
|  |  |  |  |  |  |  |  sorahid > 24 : present_simple (8.0/3.0)
|  |  |  |  |  |  |  ayahid > 94 : future (5.0)
|  |  |  |  |  |  sorahid > 25 : past_simple (75.0/11.0)
|  |  |  sorahid > 29
|  |  |  |  sorahid <= 50
|  |  |  |  |  ayahid <= 74
|  |  |  |  |  |  ayahid <= 39
|  |  |  |  |  |  |  ayahid <= 14 : present_simple (7.0/1.0)
|  |  |  |  |  |  |  ayahid > 14
|  |  |  |  |  |  |  |  sorahid <= 37
|  |  |  |  |  |  |  |  |  ayahid <= 19 : past_simple (6.0/2.0)
|  |  |  |  |  |  |  |  |  ayahid > 19 : future (9.0/3.0)
|  |  |  |  |  |  |  |  sorahid > 37
|  |  |  |  |  |  |  |  |  sorahid <= 40 : past_simple (10.0/1.0)
|  |  |  |  |  |  |  |  |  sorahid > 40
|  |  |  |  |  |  |  |  |  |  sorahid <= 45
|  |  |  |  |  |  |  |  |  |  sorahid <= 42 : future (3.0/1.0)
|  |  |  |  |  |  |  |  |  |  sorahid > 42 : present_simple (5.0/2.0)
|  |  |  |  |  |  |  |  |  |  sorahid > 45
|  |  |  |  |  |  |  |  |  |  sorahid <= 48 : past_simple (3.0)
|  |  |  |  |  |  |  |  |  |  sorahid > 48 : future (3.0/1.0)
|  |  |  |  |  |  ayahid > 39
|  |  |  |  |  |  sorahid <= 41 : future (17.0/3.0)
|  |  |  |  |  |  sorahid > 41 : present_simple (2.0/1.0)
|  |  |  |  |  ayahid > 74 : past_simple (12.0/1.0)
|  |  |  |  sorahid > 50
|  |  |  |  |  ayahid <= 44
|  |  |  |  |  |  sorahid <= 67
|  |  |  |  |  |  |  sorahid <= 55
|  |  |  |  |  |  |  |  ayahid <= 20 : perfect (2.0/1.0)
|  |  |  |  |  |  |  |  ayahid > 20 : past_simple (5.0/1.0)
|  |  |  |  |  |  |  sorahid > 55 : future (5.0/1.0)
```

| | | | | | sorahid > 67 : past_simple (16.0/4.0)

| | | | | ayahid > 44 : perfect (4.0/1.0)

| wordid > 1

| | aspect-IMPF = N

| | | law = N

| | | | an = N

| | | | | mā = N

| | | | | | yawù'm = N

| | | | | | | aspect-PERF = N

| | | | | | | | qad = N

| | | | | | | | | idhā -COND = N

| | | | | | | | | | wordid <= 9

| | | | | | | | | | | wordid <= 5

| | | | | | | | | | | wordid <= 3 : present_simple (6.0/2.0)

| | | | | | | | | | | wordid > 3 : present (7.0/2.0)

| | | | | | | | | | | wordid > 5

| | | | | | | | | | | lA-PRO = N

| | | | | | | | | | | sorahid <= 6 : past_simple (2.0)

| | | | | | | | | | | sorahid > 6: future (7.0/2.0)

| | | | | | | | | | lā -PRO = Y: present_simple (3.0)

| | | | | | | | | wordid > 9

| | | | | | | | | | lā -PRO = N

| | | | | | | | | | sorahid <= 8 : past_simple (10.0/5.0)

| | | | | | | | | | sorahid > 8

| | | | | | | | | | sorahid <= 15 : past_passive (2.0/1.0)

| | | | | | | | | | sorahid > 15 : present (5.0/2.0)

| | | | | | | | | lā PRO = Y : present (8.0/4.0)

| | | | | | | | idhā -COND = Y

| | | | | | | | sorahid <= 31 : present_simple (5.0/2.0)

| | | | | | | | sorahid > 31 : present_passive (2.0)

| | | | | | | qad = Y : past (4.0/1.0)

| | | | | | aspect-PERF = Y

| | | | | | | idhā- COND = N

```
| | | | | | | | |  wordid <= 2
| | | | | | | | | | qad = N
| | | | | | | | | |  sorahid <= 62
| | | | | | | | | | |  ayahid <= 25
| | | | | | | | | | | |  ayahid <= 9 : past_simple (8.0/2.0)
| | | | | | | | | | | |  ayahid > 9
| | | | | | | | | | | | |  sorahid <= 42
| | | | | | | | | | | | | |  ayahid <= 20
| | | | | | | | | | | | | | |  sorahid <= 3 : present_passive (2.0)
| | | | | | | | | | | | | |  sorahid > 3
| | | | | | | | | | | | | | |  ayahid <= 14
| | | | | | | | | | | | | | | |  ayahid <= 11 : past (2.0/1.0)
| | | | | | | | | | | | | | | |  ayahid > 11 : past_simple (2.0)
| | | | | | | | | | | | | | |  ayahid > 14 : present (7.0/1.0)
| | | | | | | | | | | | | |  ayahid > 20 : present_passive (2.0)
| | | | | | | | | | | | |  sorahid > 42
| | | | | | | | | | | | | |  sorahid <= 46 : present_simple (2.0)
| | | | | | | | | | | | | |  sorahid > 46 : past (3.0/1.0)
| | | | | | | | | | |  ayahid > 25
| | | | | | | | | | |  ayahid <= 88 : past_simple (37.0/10.0)
| | | | | | | | | | |  ayahid > 88
| | | | | | | | | | | |  sorahid <= 5
| | | | | | | | | | | | |  sorahid <= 4
| | | | | | | | | | | | | |  sorahid <= 3 : past_simple (11.0/5.0)
| | | | | | | | | | | | | |  sorahid > 3 : present (2.0)
| | | | | | | | | | | | | |  sorahid > 4 : future (4.0/2.0)
| | | | | | | | | | | | |  sorahid > 5
| | | | | | | | | | | | |  sorahid <= 19 : past (6.0/2.0)
| | | | | | | | | | | | |  sorahid > 19
| | | | | | | | | | | | | |  sorahid <= 31 : past_simple (6.0)
| | | | | | | | | | | | | |  sorahid > 31: past (3.0/1.0)
| | | | | | | | | | |  sorahid > 62
| | | | | | | | | | |  sorahid <= 73
```

```
| | | | | | | | | | | | | sorahid <= 70 : present_passive (2.0/1.0)
| | | | | | | | | | | | | sorahid > 70 : perfect (3.0)
| | | | | | | | | | | | sorahid > 73
| | | | | | | | | | | | | sorahid <= 78 : present_passive (2.0/1.0)
| | | | | | | | | | | | | sorahid > 78 : present (2.0)
| | | | | | | | | | | | qad = Y
| | | | | | | | | | | | ayahid <= 10 : present (3.0)
| | | | | | | | | | | | ayahid > 10 : past (10.0/5.0)
| | | | | | | | | | | wordid > 2
| | | | | | | | | | | ayahid <= 137
| | | | | | | | | | | wordid <= 10
| | | | | | | | | | | | sorahid <= 13
| | | | | | | | | | | | sorahid <= 5
| | | | | | | | | | | | | ayahid <= 94
| | | | | | | | | | | | | | sorahid <= 3
| | | | | | | | | | | | | | | ayahid <= 26 : present_simple (2.0)
| | | | | | | | | | | | | | | ayahid > 26
| | | | | | | | | | | | | | | ayahid <= 63 : past_simple (9.0/2.0)
| | | | | | | | | | | | | | | ayahid > 63 : past (5.0/3.0)
| | | | | | | | | | | | | | | sorahid > 3
| | | | | | | | | | | | | | | sorahid <= 4 : past_passive (2.0/1.0)
| | | | | | | | | | | | | | | sorahid > 4 : present_simple (5.0/1.0)
| | | | | | | | | | | | | | ayahid > 94
| | | | | | | | | | | | | | | ayahid <= 112 : present (6.0/1.0)
| | | | | | | | | | | | | | | ayahid > 112 : past_simple (5.0/1.0)
| | | | | | | | | | | | | sorahid > 5
| | | | | | | | | | | | | sorahid <= 10
| | | | | | | | | | | | | | ayahid <= 64
| | | | | | | | | | | | | | | ayahid <= 39
| | | | | | | | | | | | | | | ayahid <= 13
| | | | | | | | | | | | | | | sorahid <= 6 : meaning (2.0/1.0)
| | | | | | | | | | | | | | | sorahid > 6 : past_simple (2.0)
| | | | | | | | | | | | | | | ayahid > 13 : present_simple (6.0/1.0)
```

```
| | | | | | | | | | | | | | | | |  ayahid > 39
| | | | | | | | | | | | | | | | | |  sorahid <= 7 : future (2.0/1.0)
| | | | | | | | | | | | | | | | | |  sorahid > 7 : past_simple (2.0/1.0)
| | | | | | | | | | | | | | | | |  ayahid > 64
| | | | | | | | | | | | | | | | | |  sorahid <= 6
| | | | | | | | | | | | | | | | | |  ayahid <= 85 : past_simple (5.0)
| | | | | | | | | | | | | | | | | |  ayahid > 85 : present_simple (3.0)
| | | | | | | | | | | | | | | | | |  sorahid > 6 : past_simple (22.0/6.0)
| | | | | | | | | | | | | | | | |  sorahid > 10 : past_simple (33.0/7.0)
| | | | | | | | | | | | | | | |  sorahid > 13
| | | | | | | | | | | | | | | |  qad = N
| | | | | | | | | | | | | | | |  sorahid <= 66
| | | | | | | | | | | | | | | |  ayahid <= 8
| | | | | | | | | | | | | | | | |  ayahid <= 4 : present_simple (5.0/1.0)
| | | | | | | | | | | | | | | | |  ayahid > 4 : present (10.0/5.0)
| | | | | | | | | | | | | | | |  ayahid > 8
| | | | | | | | | | | | | | | |  ayahid <= 36
| | | | | | | | | | | | | | | | |  sorahid <= 51
| | | | | | | | | | | | | | | | | |  sorahid <= 17
| | | | | | | | | | | | | | | | | |  ayahid <= 15 : past (2.0/1.0)
| | | | | | | | | | | | | | | | | |  ayahid > 15
| | | | | | | | | | | | | | | | | |  ayahid <= 22 : future (2.0)
| | | | | | | | | | | | | | | | | | |  ayahid > 22 : present_simple (2.0)
| | | | | | | | | | | | | | | | | |  sorahid > 17
| | | | | | | | | | | | | | | | | |  wordid <= 6 : past_simple (55.0/17.0)
| | | | | | | | | | | | | | | | | |  wordid > 6
| | | | | | | | | | | | | | | | | |  wordid <= 8
| | | | | | | | | | | | | | | | | |  wordid <= 7
| | | | | | | | | | | | | | | | | |  ayahid <= 10 : past (3.0)
| | | | | | | | | | | | | | | | | |  ayahid > 10 : past_simple
(10.0/3.0)
| | | | | | | | | | | | | | | | | |  wordid > 7
| | | | | | | | | | | | | | | | | |  sorahid <= 33 : past (3.0/1.0)
```

```
| | | | | | | | | | | | | | | | | | | | | |  sorahid > 33 : past_simple (4.0/1.0)
| | | | | | | | | | | | | | | | | | | |  wordid > 8 : present_simple (7.0/5.0)
| | | | | | | | | | | | | | | | |  sorahid > 51
| | | | | | | | | | | | | | | | | |  sorahid <= 53 : perfect (2.0/1.0)
| | | | | | | | | | | | | | | | | |  sorahid > 53
| | | | | | | | | | | | | | | | | | |  ayahid <= 15
| | | | | | | | | | | | | | | | | | | |  wordid <= 6 : past (2.0)
| | | | | | | | | | | | | | | | | | | |  wordid > 6 : past_simple (3.0/1.0)
| | | | | | | | | | | | | | | | | | |  ayahid > 15 : present_simple (3.0/1.0)
| | | | | | | | | | | | | | | |  ayahid > 36
| | | | | | | | | | | | | | | | |  ayahid <= 83
| | | | | | | | | | | | | | | | | |  sorahid <= 34
| | | | | | | | | | | | | | | | | | |  wordid <= 6
| | | | | | | | | | | | | | | | | | | |  wordid <= 4
| | | | | | | | | | | | | | | | | | | | |  ayahid <= 72 : past_simple (13.0/4.0)
| | | | | | | | | | | | | | | | | | | | |  ayahid > 72 : meaning (5.0/1.0)
| | | | | | | | | | | | | | | | | | | |  wordid > 4 : present_simple (12.0/4.0)
| | | | | | | | | | | | | | | | | | |  wordid > 6
| | | | | | | | | | | | | | | | | | | |  ayahid <= 62
| | | | | | | | | | | | | | | | | | | | |  ayahid <= 52 : past (6.0)
| | | | | | | | | | | | | | | | | | | | |  ayahid > 52 : past_simple (3.0/1.0)
| | | | | | | | | | | | | | | | | | | |  ayahid > 62
| | | | | | | | | | | | | | | | | | | | |  sorahid <= 23 : meaning (4.0/1.0)
| | | | | | | | | | | | | | | | | | | | |  sorahid > 23 : past (2.0)
| | | | | | | | | | | | | | | | | |  sorahid > 34
| | | | | | | | | | | | | | | | | | |  sorahid <= 41
| | | | | | | | | | | | | | | | | | | |  sorahid <= 39
| | | | | | | | | | | | | | | | | | | | |  ayahid <= 60
| | | | | | | | | | | | | | | | | | | | | |  sorahid <= 35 : perfect (2.0/1.0)
| | | | | | | | | | | | | | | | | | | | | |  sorahid > 35 : meaning (3.0/1.0)
| | | | | | | | | | | | | | | | | | | | |  ayahid > 60 : past (5.0/2.0)
| | | | | | | | | | | | | | | | | | | |  sorahid > 39 : future (5.0/3.0)
| | | | | | | | | | | | | | | | | | |  sorahid > 41
```

```
| | | | | | | | | | | | | | | | | | | | | | | | sorahid <= 53 : past_simple (6.0/4.0)
| | | | | | | | | | | | | | | | | | | | | | | | sorahid > 53 : meaning (2.0)
| | | | | | | | | | | | | | | | | | | | | | | | ayahid > 83
| | | | | | | | | | | | | | | | | | | | | | | | sorahid <= 16 : future (2.0/1.0)
| | | | | | | | | | | | | | | | | | | | | | | | sorahid > 16
| | | | | | | | | | | | | | | | | | | | | | | | ayahid <= 103 : past_simple (7.0/1.0)
| | | | | | | | | | | | | | | | | | | | | | | | ayahid > 103 : perfect (5.0/2.0)
| | | | | | | | | | | | | | | | | | | | | | | | sorahid > 66
| | | | | | | | | | | | | | | | | | | | | | | | ayahid <= 23
| | | | | | | | | | | | | | | | | | | | | | | | wordid <= 6
| | | | | | | | | | | | | | | | | | | | | | | | wordid <= 4
| | | | | | | | | | | | | | | | | | | | | | | | sorahid <= 74 : present (2.0)
| | | | | | | | | | | | | | | | | | | | | | | | sorahid > 74 : future (3.0/1.0)
| | | | | | | | | | | | | | | | | | | | | | | | wordid > 4 : present_simple (4.0/2.0)
| | | | | | | | | | | | | | | | | | | | | | | | wordid > 6 : present (3.0/1.0)
| | | | | | | | | | | | | | | | | | | | | | | | ayahid > 23 : past_simple (3.0/1.0)
| | | | | | | | | | | | | | | | | | | | | | | | qad = Y
| | | | | | | | | | | | | | | | | | | | | | | | wordid <= 7
| | | | | | | | | | | | | | | | | | | | | | | | ayahid <= 33 : past_simple (4.0/1.0)
| | | | | | | | | | | | | | | | | | | | | | | | ayahid > 33
| | | | | | | | | | | | | | | | | | | | | | | | wordid <= 6 : perfect (3.0/1.0)
| | | | | | | | | | | | | | | | | | | | | | | | wordid > 6 : past (2.0)
| | | | | | | | | | | | | | | | | | | | | | | | wordid > 7
| | | | | | | | | | | | | | | | | | | | | | | | wordid <= 9
| | | | | | | | | | | | | | | | | | | | | | | | ayahid <= 37 : meaning (3.0)
| | | | | | | | | | | | | | | | | | | | | | | | ayahid > 37 : past_simple (2.0/1.0)
| | | | | | | | | | | | | | | | | | | | | | | | wordid > 9 : present (2.0)
| | | | | | | | | | | | | | | | | | | | | | | | wordid > 10
| | | | | | | | | | | | | | | | | | | | | | | | lā -NEG = N
| | | | | | | | | | | | | | | | | | | | | | | | sorahid <= 17
| | | | | | | | | | | | | | | | | | | | | | | | lā -PRO = N
| | | | | | | | | | | | | | | | | | | | | | | | ayahid <= 81
| | | | | | | | | | | | | | | | | | | | | | | | sorahid <= 15
```

```
| | | | | | | | | | | | | | | | | wordid <= 16
| | | | | | | | | | | | | | | | | | ayahid <= 31 : past_simple (5.0)
| | | | | | | | | | | | | | | | | | ayahid > 31
| | | | | | | | | | | | | | | | | | sorahid <= 7
| | | | | | | | | | | | | | | | | | | sorahid <= 2 : perfect (2.0/1.0)
| | | | | | | | | | | | | | | | | | | sorahid > 2 : past_simple (5.0/1.0)
| | | | | | | | | | | | | | | | | | sorahid > 7 : past (7.0/2.0)
| | | | | | | | | | | | | | | | | | wordid > 16
| | | | | | | | | | | | | | | | | | ayahid <= 26 : present_simple (4.0/1.0)
| | | | | | | | | | | | | | | | | | ayahid > 26 : past_simple (6.0)
| | | | | | | | | | | | | | | | | sorahid > 15 : past (3.0/1.0)
| | | | | | | | | | | | | | | | | ayahid > 81
| | | | | | | | | | | | | | | | | wordid <= 20
| | | | | | | | | | | | | | | | | wordid <= 11 : past (6.0/2.0)
| | | | | | | | | | | | | | | | | wordid > 11
| | | | | | | | | | | | | | | | | sorahid <= 6 : present_simple (4.0/1.0)
| | | | | | | | | | | | | | | | | sorahid > 6
| | | | | | | | | | | | | | | | | ayahid <= 102 : present_simple (2.0/1.0)
| | | | | | | | | | | | | | | | | ayahid > 102 : past (3.0/1.0)
| | | | | | | | | | | | | | | | | wordid > 20 : present (2.0)
| | | | | | | | | | | | | | | | lā -PRO = Y : past (4.0)
| | | | | | | | | | | | | | | sorahid > 17
| | | | | | | | | | | | | | | sorahid <= 65
| | | | | | | | | | | | | | | sorahid <= 31
| | | | | | | | | | | | | | | wordid <= 13 : past (19.0/7.0)
| | | | | | | | | | | | | | | wordid > 13
| | | | | | | | | | | | | | | ayahid <= 25 : past_simple (3.0/1.0)
| | | | | | | | | | | | | | | ayahid > 25 : present (7.0/3.0)
| | | | | | | | | | | | | | | sorahid > 31
| | | | | | | | | | | | | | | wordid <= 11 : present (7.0/3.0)
| | | | | | | | | | | | | | | wordid > 11
| | | | | | | | | | | | | | | sorahid <= 44
| | | | | | | | | | | | | | | | sorahid <= 33
```

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| | | | | | | | | | | | | | | | | | | sorahid <= 32: future_passive (2.0/1.0)
| | | | | | | | | | | | | | | | | | | sorahid > 32: present (4.0)
| | | | | | | | | | | | | | | | | | sorahid > 33: past (8.0/2.0)
| | | | | | | | | | | | | | | | | sorahid > 44: present (8.0/2.0)
| | | | | | | | | | | | | | sorahid > 65
| | | | | | | | | | | | | | | ayahid <= 6: past_simple (2.0)
| | | | | | | | | | | | | | | ayahid > 6: perfect (3.0/2.0)
| | | | | | | | | | | | lā -NEG = Y: past_simple (6.0/2.0)
| | | | | | | | | | ayahid > 137
| | | | | | | | | | | lā -NEG = N
| | | | | | | | | | | | ayahid <= 195
| | | | | | | | | | | | | ayahid <= 157: past_simple (14.0/3.0)
| | | | | | | | | | | | | ayahid > 157
| | | | | | | | | | | | | | qad = N
| | | | | | | | | | | | | | | wordid <= 12: present (8.0/2.0)
| | | | | | | | | | | | | | | wordid > 12
| | | | | | | | | | | | | | | | sorahid <= 2: meaning (2.0/1.0)
| | | | | | | | | | | | | | | | sorahid > 2: past_simple (3.0)
| | | | | | | | | | | | | | qad = Y: past_simple (2.0)
| | | | | | | | | | | | ayahid > 195: past_simple (15.0/1.0)
| | | | | | | | | | | lā -NEG = Y: past (2.0/1.0)
| | | | | | | | idhā -COND = Y
| | | | | | | | | sorahid <= 6: present_simple (8.0/1.0)
| | | | | | | | | sorahid > 6
| | | | | | | | | | sorahid <= 20
| | | | | | | | | | | sorahid <= 8: future (3.0)
| | | | | | | | | | | sorahid > 8
| | | | | | | | | | | | wordid <= 8
| | | | | | | | | | | | | sorahid <= 17: perfect (3.0/1.0)
| | | | | | | | | | | | | sorahid > 17: past_simple (2.0)
| | | | | | | | | | | | wordid > 8
| | | | | | | | | | | | | wordid <= 13: present (4.0/1.0)
| | | | | | | | | | | | | wordid > 13: past_simple (3.0)
```

```
|  |  |  |  |  |  |  |  |  |  sorahid > 20
|  |  |  |  |  |  |  |  |  |  |  sorahid <= 26
|  |  |  |  |  |  |  |  |  |  |  |  wordid <= 5: meaning (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  wordid > 5: present_simple (3.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  sorahid > 26
|  |  |  |  |  |  |  |  |  |  |  |  ayahid <= 58
|  |  |  |  |  |  |  |  |  |  |  |  |  lā -NEG = N
|  |  |  |  |  |  |  |  |  |  |  |  |  ayahid <= 15: present_simple (2.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  ayahid > 15: past_simple (6.0/2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  lā -NEG = Y: future (3.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  ayahid > 58: future (4.0/1.0)
|  |  |  |  |  |  yawm -T = Y
|  |  |  |  |  |  aspect-PERF = N: future (6.0/1.0)
|  |  |  |  |  |  aspect-PERF = Y
|  |  |  |  |  |  |  laysa = N
|  |  |  |  |  |  |  sorahid <= 5: past_simple (4.0/1.0)
|  |  |  |  |  |  |  sorahid > 5
|  |  |  |  |  |  |  |  ayahid <= 20
|  |  |  |  |  |  |  |  |  ayahid <= 9: present (2.0)
|  |  |  |  |  |  |  |  |  |  ayahid > 9: past_simple (3.0/2.0)
|  |  |  |  |  |  |  |  |  ayahid > 20: past (15.0/4.0)
|  |  |  |  |  |  |  |  layasa = Y: future (2.0)
|  |  |  |  |  mā = Y
|  |  |  |  |  |  ’axaḏa -V  = N
|  |  |  |  |  |  idhā-COND = N
|  |  |  |  |  |  |  aspect-PERF = N
|  |  |  |  |  |  |  |  mā -NEG = N
|  |  |  |  |  |  |  |  |  mā Almsdryä§ -REL = N: past_simple (3.0)
|  |  |  |  |  |  |  |  |  mā Almsdryä§ -REL = Y
|  |  |  |  |  |  |  |  |  |  lā -PRO = N: present (5.0/2.0)
|  |  |  |  |  |  |  |  |  |  lā -PRO = Y: present_simple (3.0/2.0)
|  |  |  |  |  |  |  |  |  mā -NEG = Y
|  |  |  |  |  |  |  |  |  ayahid <= 31: past (2.0/1.0)
```

```
| | | | | | | | | |  ayahid > 31: present_simple (4.0/2.0)
| | | | | | | |  aspect-PERF = Y
| | | | | | | | |  yawm = N
| | | | | | | | | | qad = N
| | | | | | | | | | |  mā Almsdryä§ -REL = N
| | | | | | | | | | | |  ayahid <= 142
| | | | | | | | | | | | |  sorahid <= 7
| | | | | | | | | | | | | |  mā -NEG = N
| | | | | | | | | | | | | | |  wordid <= 5
| | | | | | | | | | | | | | |  ayahid <= 87: past (4.0/1.0)
| | | | | | | | | | | | | | |  ayahid > 87: past_simple (2.0/1.0)
| | | | | | | | | | | | | | |  wordid > 5
| | | | | | | | | | | | | | |  wordid <= 15: past_simple (7.0/2.0)
| | | | | | | | | | | | | | |  wordid > 15: meaning (3.0/1.0)
| | | | | | | | | | | | | |  mā -NEG = Y: past (12.0/3.0)
| | | | | | | | | | | | |  sorahid > 7
| | | | | | | | | | | | |  lā -NEG = N
| | | | | | | | | | | | | |  mā -NEG = N
| | | | | | | | | | | | | | |  sorahid <= 35
| | | | | | | | | | | | | | |  ayahid <= 42: present (11.0/2.0)
| | | | | | | | | | | | | | |  ayahid > 42
| | | | | | | | | | | | | | |  sorahid <= 10: present (7.0/3.0)
| | | | | | | | | | | | | | |  sorahid > 10: past (8.0/1.0)
| | | | | | | | | | | | | | |  sorahid > 35: past (6.0/2.0)
| | | | | | | | | | | | | |  mā -NEG = Y
| | | | | | | | | | | | | | |  ayahid <= 26
| | | | | | | | | | | | | | |  ayahid <= 13: present (2.0)
| | | | | | | | | | | | | | |  ayahid > 13
| | | | | | | | | | | | | | |  ayahid <= 19: past (2.0)
| | | | | | | | | | | | | | |  ayahid > 19: present (7.0/4.0)
| | | | | | | | | | | | | | |  ayahid > 26: past (33.0/13.0)
| | | | | | | | | | | | | |  lā -NEG = Y: present (5.0/1.0)
| | | | | | | | | | | | |  ayahid > 142: present (9.0/4.0)
```

```
| | | | | | | | | | | mā Almsdryä§ -REL = Y
| | | | | | | | | | | | ja'ala -V  = N
| | | | | | | | | | | | | mā -NEG = N
| | | | | | | | | | | | | | sorahid <= 21
| | | | | | | | | | | | | | | ayahid <= 86
| | | | | | | | | | | | | | | | wordid <= 11: past (23.0/11.0)
| | | | | | | | | | | | | | | | wordid > 11
| | | | | | | | | | | | | | | | | ayahid <= 32
| | | | | | | | | | | | | | | | | ayahid <= 20: present (2.0)
| | | | | | | | | | | | | | | | | ayahid > 20: meaning (2.0)
| | | | | | | | | | | | | | | | ayahid > 32: past (10.0/3.0)
| | | | | | | | | | | | | | | ayahid > 86
| | | | | | | | | | | | | | | sorahid <= 4
| | | | | | | | | | | | | | | | sorahid <= 2: present_simple (5.0/3.0)
| | | | | | | | | | | | | | | sorahid > 2: meaning (4.0/1.0)
| | | | | | | | | | | | | | sorahid > 4
| | | | | | | | | | | | | | | ayahid <= 92: perfect (2.0/1.0)
| | | | | | | | | | | | | | | ayahid > 92
| | | | | | | | | | | | | | | | wordid <= 12
| | | | | | | | | | | | | | | | wordid <= 9: past (4.0/1.0)
| | | | | | | | | | | | | | | | wordid > 9: present_simple (2.0)
| | | | | | | | | | | | | | | wordid > 12: past (17.0/2.0)
| | | | | | | | | | | | | sorahid > 21
| | | | | | | | | | | | | | wordid <= 17
| | | | | | | | | | | | | | sorahid <= 26
| | | | | | | | | | | | | | sorahid <= 25: present (2.0)
| | | | | | | | | | | | | | sorahid > 25
| | | | | | | | | | | | | | ayahid <= 102: perfect (2.0)
| | | | | | | | | | | | | | ayahid > 102: present (3.0/1.0)
| | | | | | | | | | | | | sorahid > 26: past (35.0/13.0)
| | | | | | | | | | | | wordid > 17: present (7.0/3.0)
| | | | | | | | | | | | mā -NEG = Y
| | | | | | | | | | | | ayahid <= 60
```

```
| | | | | | | | | | | | | | | wordid <= 17: past (5.0/1.0)
| | | | | | | | | | | | | | | wordid > 17
| | | | | | | | | | | | | | | | ayahid <= 26 : meaning (2.0/1.0)
| | | | | | | | | | | | | | | | ayahid > 26 : present_simple (2.0)
| | | | | | | | | | | | | | | | ayahid > 60 : present (6.0/2.0)
| | | | | | | | | | | | | | | ja'ala -V = Y
| | | | | | | | | | | | | | | ayahid <= 129: past (3.0/1.0)
| | | | | | | | | | | | | | | ayahid > 129: present (3.0/1.0)
| | | | | | | | | | | | | | | qad = Y
| | | | | | | | | | | | | | | mā Almsdryä§ -REL = N: present (10.0/2.0)
| | | | | | | | | | | | | | | mā Almsdryä§ -REL = Y
| | | | | | | | | | | | | | | sorahid <= 10: past (11.0/2.0)
| | | | | | | | | | | | | | | sorahid > 10
| | | | | | | | | | | | | | | ayahid <= 38: present (2.0)
| | | | | | | | | | | | | | | ayahid > 38: past (2.0/1.0)
| | | | | | | | | | | | | | | yawm = Y
| | | | | | | | | | | | | | | qad = N: past (22.0/6.0)
| | | | | | | | | | | | | | | qad = Y: meaning (2.0)
| | | | | | | | | | | | | | | idhā -COND = Y
| | | | | | | | | | | | | | | aspect-PERF = N: present_passive (2.0/1.0)
| | | | | | | | | | | | | | | aspect-PERF = Y
| | | | | | | | | | | | | | | ayahid <= 27: past (3.0/1.0)
| | | | | | | | | | | | | | | ayahid > 27
| | | | | | | | | | | | | | | wordid <= 26: past_simple (4.0/2.0)
| | | | | | | | | | | | | | | wordid > 26: future (3.0/1.0)
| | | | | | | | | | | | | | | 'axaḏa -V = Y
| | | | | | | | | | | | | | | mā-NEG = N: past_simple (6.0/1.0)
| | | | | | | | | | | | | | | mā-NEG = Y: past (2.0)
| | | | | | | | | | | | | | | an -SUB = Y
| | | | | | | | | | | | | | | laysa -V = N
| | | | | | | | | | | | | | | yawm= N
| | | | | | | | | | | | | | | lā-PRO = N
| | | | | | | | | | | | | | | sorahid <= 3
```

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| | | | | | | | | lā-NEG = N
| | | | | | | | | | mā-NEG = N
| | | | | | | | | | | wordid <= 27
| | | | | | | | | | | | qad = N
| | | | | | | | | | | | | mā-NEG = N
| | | | | | | | | | | | | | ayahid <= 132
| | | | | | | | | | | | | | wordid <= 6: present (3.0)
| | | | | | | | | | | | | | wordid > 6: past_simple (10.0/3.0)
| | | | | | | | | | | | | | ayahid > 132
| | | | | | | | | | | | | | wordid <= 5: present (2.0)
| | | | | | | | | | | | | | wordid > 5: past (2.0)
| | | | | | | | | | | | | mā -NEG = Y: present (4.0)
| | | | | | | | | | | | qad = Y: past_simple (5.0/1.0)
| | | | | | | | | | | wordid > 27
| | | | | | | | | | | aspect-PERF = N: meaning (2.0/1.0)
| | | | | | | | | | | | aspect-PERF = Y
| | | | | | | | | | | | wordid <= 30: meaning (2.0/1.0)
| | | | | | | | | | | | wordid > 30: present (2.0)
| | | | | | | | | | mā-NEG = Y: past (2.0)
| | | | | | | | | lā-NEG = Y
| | | | | | | | | sorahid <= 2: past_simple (3.0/1.0)
| | | | | | | | | sorahid > 2: present_simple (4.0/1.0)
| | | | | | | | sorahid > 3
| | | | | | | | annamā -ACC = N
| | | | | | | | | aspect-PERF = N
| | | | | | | | | | sorahid <= 11
| | | | | | | | | | | sorahid <= 10
| | | | | | | | | | | | wordid <= 24: present (13.0/2.0)
| | | | | | | | | | | | wordid > 24: meaning (2.0)
| | | | | | | | | | | sorahid > 10: meaning (4.0/1.0)
| | | | | | | | | | sorahid > 11
| | | | | | | | | | | wordid <= 13
| | | | | | | | | | | wordid <= 9
```

```
|  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid <= 8
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 21: past (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 21: present (4.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 8: present (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 9: present_simple (4.0/2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 13
|  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 35: present (6.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 35: past_simple (3.0/1.0)
|  |  |  |  |  |  |  |  |  |  aspect-PERF = Y
|  |  |  |  |  |  |  |  |  |  |  qad = N
|  |  |  |  |  |  |  |  |  |  |  wordid <= 4
|  |  |  |  |  |  |  |  |  |  |  |  ayahid <= 27
|  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 49: present (5.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 49
|  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid <= 14: past (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid > 14: meaning (6.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  ayahid > 27
|  |  |  |  |  |  |  |  |  |  |  |  |  ayahid <= 34
|  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid <= 2: past (4.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 2
|  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid <= 29: perfect (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid > 29: past (3.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  ayahid > 34
|  |  |  |  |  |  |  |  |  |  |  |  |  ayahid <= 95
|  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid <= 79
|  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid <= 42: present (6.0/2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid > 42
|  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 33: past (3.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 33
|  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 42: present (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 42: past (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  ayahid > 79: present (9.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  ayahid > 95
```

```
| | | | | | | | | | | | | | | | | sorahid <= 31: past (4.0/1.0)
| | | | | | | | | | | | | | | | | sorahid > 31: perfect (2.0/1.0)
| | | | | | | | | | | | | wordid > 4
| | | | | | | | | | | | | | sorahid <= 4
| | | | | | | | | | | | | | | ayahid <= 101
| | | | | | | | | | | | | | | | ayahid <= 94: present (21.0/3.0)
| | | | | | | | | | | | | | | | ayahid > 94: future (5.0/2.0)
| | | | | | | | | | | | | | | ayahid > 101: present (14.0/3.0)
| | | | | | | | | | | | | | sorahid > 4
| | | | | | | | | | | | | | | wordid <= 5
| | | | | | | | | | | | | | | | sorahid <= 16
| | | | | | | | | | | | | | | | | ayahid <= 82: present (3.0/1.0)
| | | | | | | | | | | | | | | | | ayahid > 82: past_simple (2.0/1.0)
| | | | | | | | | | | | | | | | sorahid > 16
| | | | | | | | | | | | | | | | | ayahid <= 45: present (7.0/2.0)
| | | | | | | | | | | | | | | | | ayahid > 45: past (4.0/1.0)
| | | | | | | | | | | | | | | wordid > 5
| | | | | | | | | | | | | | | | mā Almsdryä§ -REL = N
| | | | | | | | | | | | | | | | | wordid <= 17
| | | | | | | | | | | | | | | | | mā -NEG = N
| | | | | | | | | | | | | | | | | sorahid <= 17: present (34.0/8.0)
| | | | | | | | | | | | | | | | | sorahid > 17
| | | | | | | | | | | | | | | | | | sorahid <= 22
| | | | | | | | | | | | | | | | | | | ayahid <= 49: present (6.0/1.0)
| | | | | | | | | | | | | | | | | | | ayahid > 49
| | | | | | | | | | | | | | | | | | | | sorahid <= 20
| | | | | | | | | | | | | | | | | | | | | ayahid <= 58: past (5.0)
| | | | | | | | | | | | | | | | | | | | | ayahid > 58: future (2.0)
| | | | | | | | | | | | | | | | | | | | | sorahid > 20
| | | | | | | | | | | | | | | | | | | | | | ayahid <= 71: future (2.0/1.0)
| | | | | | | | | | | | | | | | | | | | | | ayahid > 71: past (4.0/1.0)
| | | | | | | | | | | | | | | | | | | | | sorahid > 22
| | | | | | | | | | | | | | | | | | | | | sorahid <= 27: present (14.0)
```

```
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 27
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 64
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 50
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid <= 13
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid <= 9: present (7.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 9: past (7.0/2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 13: present (6.0/2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 50: past (5.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 64: present (7.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  mā -NEG = Y
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 20: past (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 20: present (10.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 17: present (16.0/5.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  mā Almsdryä§ -REL = Y
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid <= 16: present (20.0/6.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 16
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid <= 49: past (7.0/2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid > 49: present (5.0/2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  qad = Y
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  mā -NEG = N
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid <= 9: past (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 9
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  mā -NEG = N
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 29: past_simple (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 29: present (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  mā -NEG = Y: present (3.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  mā-NEG = Y: past (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  annamā -ACC = Y
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  lā- NEG = N
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 5: present (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 5
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 13: past (6.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 13: present (3.0)
```

```
| | | | | | | | | | lā -NEG = Y: future (2.0/1.0)
| | | | | | | lā -PRO = Y
| | | | | | | | annamā -ACC = N: present (40.0/10.0)
| | | | | | | annamā -ACC = Y
| | | | | | | | | sorahid <= 10: present (3.0/1.0)
| | | | | | | | | sorahid > 10: past (2.0)
| | | | | | yawm -T = Y
| | | | | | | mā-NEG = N
| | | | | | | | ’axaḏa -V = N
| | | | | | | | wordid <= 14: present (3.0)
| | | | | | | | wordid > 14: past_simple (3.0/1.0)
| | | | | | | | ’axaḏa -V = Y: past (2.0)
| | | | | | | mā-NEG = Y: past (11.0/2.0)
| | | | | laysa = Y
| | | | | | mā-NEG = N
| | | | | | mā-NEG = N: past_simple (3.0/1.0)
| | | | | | | mā-NEG = Y
| | | | | | | | lā-NEG = N: present (5.0/1.0)
| | | | | | | | lā-NEG = Y: past (5.0/2.0)
| | | | | | mā-NEG = Y: past_perfect (2.0/1.0)
| | | law -CON = Y
| | | | qad = N
| | | | | aspect-PERF = N: present (7.0/2.0)
| | | | | aspect-PERF = Y
| | | | | | yawm -T = N
| | | | | | | mā -NEG = N
| | | | | | | | wordid <= 14
| | | | | | | | | laysa V- = N
| | | | | | | | | | idhā -COND = N
| | | | | | | | | | | mā -NEG = N
| | | | | | | | | | | | sorahid <= 12
| | | | | | | | | | | | | sorahid <= 5: pluperfect (5.0/2.0)
| | | | | | | | | | | | | sorahid > 5
```

```
|  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid <= 9
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 7
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid <= 7: future (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 7: perfect (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 7: future (3.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 9: past_passive (2.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 12
|  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid <= 24
|  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid <= 6: pluperfect (3.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 6: present (3.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  ayahid > 24
|  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid <= 43: past (4.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  ayahid > 43
|  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid <= 60: past_perfect (3.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid > 60: pluperfect (7.0/3.0)
|  |  |  |  |  |  |  |  |  mā -NEG = Y: past_simple (3.0/2.0)
|  |  |  |  |  |  |  |  |  |  idhā- COND = Y: present (2.0)
|  |  |  |  |  |  |  |  |  laysa = Y: future (2.0)
|  |  |  |  |  |  |  |  wordid > 14
|  |  |  |  |  |  |  |  sorahid <= 4: perfect (4.0/2.0)
|  |  |  |  |  |  |  |  |  sorahid > 4
|  |  |  |  |  |  |  |  |  lā -NEG = N: past (12.0/3.0)
|  |  |  |  |  |  |  |  |  |  lā-NEG = Y
|  |  |  |  |  |  |  |  |  |  wordid <= 18: past (3.0/1.0)
|  |  |  |  |  |  |  |  |  |  wordid > 18: present (3.0)
|  |  |  |  |  |  |  mā-NEG = Y
|  |  |  |  |  |  |  an = N: perfect (4.0/2.0)
|  |  |  |  |  |  |  an = Y: present (3.0/1.0)
|  |  |  |  |  |  yawma -T = Y: meaning (4.0/2.0)
|  |  |  |  qad = Y
|  |  |  |  |  sorahid <= 4: past (3.0/1.0)
|  |  |  |  |  sorahid > 4: present_simple (2.0/1.0)
|  |  aspect-IMPF = Y
```

```
|  |  |  lawlā CON- = N
|  |  |  |  yawù’ma FUT- = N
|  |  |  |  |  ʿasā V- = N
|  |  |  |  |  s- FUT = N
|  |  |  |  |  |  |  lā -PRO = N
|  |  |  |  |  |  |  |  mā -NEG = N
|  |  |  |  |  |  |  |  |  annamā -ACC – = N
|  |  |  |  |  |  |  |  |  |  idhā -COND = N
|  |  |  |  |  |  |  |  |  |  |  lā -NEG = N
|  |  |  |  |  |  |  |  |  |  |  mā Almsdryä§ -REL = N
|  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 70
|  |  |  |  |  |  |  |  |  |  |  |  |  qad = N
|  |  |  |  |  |  |  |  |  |  |  |  |  |  an -SUB = N
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid <= 4
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid <= 2: present_simple (34.0/12.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 2
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 17
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid <= 3
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid <= 41: present (3.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid > 41: present_simple (6.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 3
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 2: present_simple (2.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 2: future (3.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 17
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 28
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 25
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid <= 30: future (3.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid > 30: past_simple (3.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 25: present (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 28
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid <= 13: present_simple (4.0/2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid > 13: past (6.0/3.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 4
```

```
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 4
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  ja'ala -V = N
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid <= 5: present (3.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 5: present_simple (12.0/3.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  ja'ala -V = Y: present (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 4
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 37
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid <= 6
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid <= 5
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 12: present_simple
(4.0/2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 12: present (5.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 5
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 26: meaning (3.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 26: noun (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 6
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 10
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid <= 17: present (10.0/3.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid > 17: present_simple (3.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 10
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid <= 74
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid <= 42
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 11: future (3.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 11
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 27: present
(5.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 27: future (3.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid > 42: future (5.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  ayahid > 74: present (6.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 37
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  wordid <= 9
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 65: present_simple
(10.0/3.0)
```

| | | | | | | | | | | | | | | | | | | | sorahid > 65: future (2.0)

| | | | | | | | | | | | | | | | | | | wordid > 9: present (6.0/2.0)

| | | | | | | | | | | | | | | an -SUB = Y

| | | | | | | | | | | | | | | | ayahid <= 87

| | | | | | | | | | | | | | | | | sorahid <= 3: present_simple (3.0/2.0)

| | | | | | | | | | | | | | | | | sorahid > 3

| | | | | | | | | | | | | | | | | | ayna -INTG = N

| | | | | | | | | | | | | | | | | | | sorahid <= 36

| | | | | | | | | | | | | | | | | | | | sorahid <= 8: present (5.0/2.0)

| | | | | | | | | | | | | | | | | | | | sorahid > 8

| | | | | | | | | | | | | | | | | | | | | sorahid <= 20: present_simple (5.0/1.0)

| | | | | | | | | | | | | | | | | | | | | sorahid > 20: present (3.0)

| | | | | | | | | | | | | | | | | | | sorahid > 36: present_simple (6.0/1.0)

| | | | | | | | | | | | | | | | | | ayna -INTG – = Y: present_simple (2.0)

| | | | | | | | | | | | | | | | ayahid > 87

| | | | | | | | | | | | | | | | | sorahid <= 18

| | | | | | | | | | | | | | | | | | ayahid <= 145: past (4.0/1.0)

| | | | | | | | | | | | | | | | | | ayahid > 145: present_simple (2.0/1.0)

| | | | | | | | | | | | | | | | | sorahid > 18: present_simple (4.0/2.0)

| | | | | | | | | | | | | | qad = Y

| | | | | | | | | | | | | | | sorahid <= 3: meaning (3.0/1.0)

| | | | | | | | | | | | | | | sorahid > 3

| | | | | | | | | | | | | | | | sorahid <= 27

| | | | | | | | | | | | | | | | | ayahid <= 108

| | | | | | | | | | | | | | | | | | wordid <= 8: present_simple (2.0)

| | | | | | | | | | | | | | | | | | wordid > 8: past (5.0/1.0)

| | | | | | | | | | | | | | | | | ayahid > 108: future (2.0/1.0)

| | | | | | | | | | | | | | | | sorahid > 27: present (6.0/2.0)

| | | | | | | | | | | | | sorahid > 70

| | | | | | | | | | | | | | sorahid <= 79

| | | | | | | | | | | | | | | sorahid <= 73: past_simple (3.0/2.0)

| | | | | | | | | | | | | | | sorahid > 73: past (4.0/1.0)

```
| | | | | | | | | | | | | | sorahid > 79: present (3.0/1.0)
| | | | | | | | | | | | mā almsdryä§= Y
| | | | | | | | | | | | | sorahid <= 11
| | | | | | | | | | | | | | laysa -V = N
| | | | | | | | | | | | | | sorahid <= 3: present_simple (4.0/2.0)
| | | | | | | | | | | | | | sorahid > 3
| | | | | | | | | | | | | | mā almsdryä§= N: present (4.0)
| | | | | | | | | | | | | | mā almsdryä§= Y
| | | | | | | | | | | | | | sorahid <= 4: present (3.0)
| | | | | | | | | | | | | | sorahid > 4: present_simple (5.0/1.0)
| | | | | | | | | | | | | | laysa -V = Y: present (2.0)
| | | | | | | | | | | | | sorahid > 11: present_simple (24.0/8.0)
| | | | | | | | | | | | lā -NEG = Y
| | | | | | | | | | | | | ayahid <= 80
| | | | | | | | | | | | | ayahid <= 17
| | | | | | | | | | | | | an -SUB = N
| | | | | | | | | | | | | sorahid <= 41: meaning (2.0)
| | | | | | | | | | | | | sorahid > 41: present (2.0)
| | | | | | | | | | | | | an -SUB = Y: present (3.0/1.0)
| | | | | | | | | | | | | ayahid > 17
| | | | | | | | | | | | | ayahid <= 34: present_simple (8.0/1.0)
| | | | | | | | | | | | | ayahid > 34
| | | | | | | | | | | | | ayahid <= 45: present (5.0)
| | | | | | | | | | | | | ayahid > 45
| | | | | | | | | | | | | sorahid <= 7: present_simple (5.0/1.0)
| | | | | | | | | | | | | sorahid > 7: future (2.0/1.0)
| | | | | | | | | | | | ayahid > 80: present (15.0/3.0)
| | | | | | | | | | | | idhā -COND = Y
| | | | | | | | | | | ayahid <= 91: present_simple (8.0/1.0)
| | | | | | | | | | | ayahid > 91: meaning (2.0/1.0)
| | | | | | | | | | | annama -ACC = Y
| | | | | | | | | | wordid <= 9: present_simple (4.0)
| | | | | | | | | | wordid > 9: present (13.0/4.0)
```

```
|  |  |  |  |  |  |  |  mā-NEG = Y
|  |  |  |  |  |  |  |  |  ayahid <= 95
|  |  |  |  |  |  |  |  |  |  qad = N
|  |  |  |  |  |  |  |  |  |  |  an -SUB = N
|  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 16: meaning (5.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  sorahid > 16
|  |  |  |  |  |  |  |  |  |  |  |  |  ja’ala -V = N: noun (2.0/1.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  ja’ala -V = Y
|  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid <= 27: present (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  |  |  sorahid > 27: present_simple (2.0)
|  |  |  |  |  |  |  |  |  |  |  |  an -SUB = Y: present_simple (4.0/1.0)
|  |  |  |  |  |  |  |  |  |  qad = Y
|  |  |  |  |  |  |  |  |  |  ayahid <= 75: present_simple (2.0/1.0)
|  |  |  |  |  |  |  |  |  |  ayahid > 75: meaning (2.0)
|  |  |  |  |  |  |  |  |  ayahid > 95: past_perfect (2.0/1.0)
|  |  |  |  |  |  |  lā-PRO = Y: present (25.0/5.0)
|  |  |  |  |  |  s-FUT = Y
|  |  |  |  |  |  |  lā-NEG = N
|  |  |  |  |  |  |  |  sorahid <= 17: future (5.0)
|  |  |  |  |  |  |  |  sorahid > 17
|  |  |  |  |  |  |  |  ayahid <= 52: present_simple (7.0/2.0)
|  |  |  |  |  |  |  |  |  ayahid > 52: future (3.0/1.0)
|  |  |  |  |  |  |  lā-NEG = Y: present_simple (2.0)
|  |  |  |  |  ʿasā -V = Y
|  |  |  |  |  |  ayahid <= 59: meaning (2.0)
|  |  |  |  |  |  ayahid > 59: future (3.0/1.0)
|  |  |  |  yawù’ma -FUT = Y
|  |  |  |  |  law -CON = N
|  |  |  |  |  wordid <= 12: future (27.0/5.0)
|  |  |  |  |  |  wordid > 12
|  |  |  |  |  |  ayahid <= 41: present (2.0)
|  |  |  |  |  |  ayahid > 41: past (2.0)
|  |  |  |  law -CON = Y: past_simple (2.0/1.0)
```

```
|  |  |  lawlā - EXH = Y
|  |  |  |  mā almsdryä§ = N: perfect (2.0/1.0)
|  |  |  |  mā almsdryä§ = Y: Participle (3.0/1.0)
aspect-IMPV = Y
|  annama -ACC = N: present_simple (344.0/12.0)
|  annama -ACC = Y
|  |  |  idhā -COND = N: present_simple (3.0)
|  |  |  idhā -COND = Y: present (6.0)

Number of Leaves  :  413

Size of the tree :  825
```