

The Role of Translation in Language Change: A Corpus-based Study
on English Influence on the Arabic Passive

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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.

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Abstract

Studies conducted around the world have shown that the structures of various languages have shifted over time towards that of English. This phenomenon could be attributed to the use of English as a lingua franca or to these languages' contact with English via translation. This thesis investigates this shift towards English-language structure in translated and original Arabic scientific texts. To this end, I developed a diachronic corpus for scientific articles dating between 1997-2000 and 2016-2018 to generate findings for this genre. The study used both parallel and comparable corpora, allowing an investigation of the influence of English not only on translated texts but also on original scientific texts written within the same time frame. The results reveal that the English language has affected the Arabic passive voice structure in translated scientific texts, and that the English passive voice structure seems also to have affected original modern Arabic scientific texts. As for the agentive passive, English does not seem to have increased its influence between 1997-2000 and 2016-18 in the translated texts as most agentive English passives are translated into active Arabic sentences in both the 1997-2000 and 2016-18 corpora. There also does not seem to be a significant increase in the agentive passive in original texts between 1997-2000 and 2016-2018.

Keywords: language change, corpus-based translation studies, language contact in translation, translation and language change, scientific texts, scientific article translation, passive voice, agentive passive, Arabic language.

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Chapter One

1.1 Introduction

Globalised communication in numerous areas of modern life is leading to an increased demand for English texts to reach different linguistic and cultural communities. This emphasis on English has led to a significant increase in English-into-Arabic translations, and vice versa (Al-Dabbagh, 2005). The extant literature shows that translations can leave their trace on translated texts (Baker, 1998) and the linguistic development of native languages (Dingwaney and Maier, 1996; Dickins et al. 2016) Furthermore, researchers have highlighted the ongoing debates around the use of English as a global language and the associated impact of translation on Arabic (Sabbah, 2015; Reddawi and Meslam, 2015). Bernacka (2012) contends that translation cannot be considered a simple inter-linguistic process, as cultural and language-specific elements must also be considered. In addition, studies show the significant changes that English has brought to the Arabic language, including in its morphology and syntax (Hanania and Gradman, 1977). This research explores the influence of English texts on the Arabic translated passive structure in scientific texts. In Arabic, it is said the passive occurs much less frequently than in English, partly because Arabic grammar traditionally only marginally allows mentioning the agent in passive constructions (Al-Raba'a, 2013).

This thesis also explores whether the syntactic changes addressed occur in non-translated Arabic texts. To this researcher's knowledge, no study has previously been conducted on this subject. Thus, this research is anticipated to contribute to existing knowledge, being particularly beneficial in the context of the fast-paced technological, cultural, and social changes currently taking place. This study uses the following system of transliteration as a system for typesetting Arabic examples.

Arabic letter	ا	ب	ت	ث	ج	ح	خ	د	ذ	ر	ز	س	ش	ص	ط	ظ	ع	غ	ف	ق	ك	ل	م	ن	هـ	و	ي	
Trans-literation	'	b	t	ṭ	j	h	x	d	ḍ	r	z	s	š	ṣ	ṭ	ṭ̣	ʕ	ġ	f	q	k	l	m	n	h	w	y	
	o																									o	o	
	r																										r	r
	ā																										ū	ī

Table 1.1. Transliteration System for Standard Arabic

1.2 The research questions

The questions that underpin this research are as follows:

1.2.1 In what ways has English affected the structure of the passive voice in scientific texts translated from English to Arabic?

1.2.2 In what ways has English translation encouraged the employment of English passive voice structures in non-translated (original) Arabic scientific texts?

1.3 Summary of chapters

To answer these questions, two corpora, a parallel corpus and a comparable corpus (with four sub-corpora) were built. The parallel corpus was used to answer the first question, and the comparable corpus the second. The parallel corpus consists of English scientific texts and their Arabic translations, each written in the periods of 1997-2000 (parallel sub-corpus 1) and 2016-2018 (sub-corpus 2). The comparable corpus consists of original Arabic scientific texts written during the same periods.

In the parallel corpus, the passive structures in the 1997-2000 English texts were compared with their Arabic translations (parallel sub-corpus 1). In the next stage, the passive structures in the 2016-2018 English texts were compared with their Arabic translations (parallel sub-corpus 2). Turning then to passive voice frequency, the 1997-2000 English texts were compared with the 1997-2000 Arabic original texts, and the 2016-2018 English texts with the 2016-2018 Arabic original texts.

In the comparable corpus, the 1997-2000 original texts were compared with the 1997-2000 translated texts (comparable sub-corpus 1), the 2016-2018 original texts with the 2016-2018 translated texts (comparable sub-corpus 2), the 1997-2000 original texts with the 2016-2018 original texts, and the 1997-2000 translated texts with the 2016-2018 translated texts.

All the English scientific texts were published in reputable international journals, including *Nature* and *Scientific American*. The translations were done by professional translators and published as official online versions, including on *Majallat Al-oolom* and *Lilelm*, while the original Arabic texts were retrieved from published books or official online journals. The

corpora were not computer corpora in the usual sense. The analysis was primarily conducted manually.

Chapter 2 of this study provides a general background to syntactic change and the influence of global English on other languages. There is an investigation of the situations that have facilitated structural change in languages, as well as the European and non-European languages that have experienced English translation-induced language change. This chapter also presents a summary account of the Arabic and English languages and explains how these languages came into contact. The use of the passive voice in English and Arabic is analysed in-depth, and the differences between the English and Arabic passive voice are detailed, covering structure, use, passivisation process, medio-passive, transitivity, and agentive passive. The translation of the passive voice is then discussed. The chapter examines the methods used to translate the passive voice from English into Arabic, as identified in the existing academic literature. This is followed by consideration of passivisation in the Holy Quran, how the passive voice is translated from Arabic into English, and, for comparison, how the passive voice is translated from English into a selection of other languages (namely, Indonesian, Czech, German, Persian, Greek, Chinese, Catalan, Japanese, and Italian).

Chapter 3 comprises two main parts: the theoretical framework and the methodology. It begins by introducing the notion of a corpus: definition; the reasons for employing corpora; and their uses, advantages and disadvantages. The study then focuses on the types of corpora used in translation studies (i.e., parallel, comparable, and multilingual). Parallel and comparable corpora are discussed in detail, including their uses, advantages, and disadvantages.

The methodology section of Chapter 3 discusses the design and development of the corpora for this study; the selection criteria for the texts in the corpora; the genre of these texts (and why this genre was chosen); the source of the texts (*Nature Magazine*, *Scientific American*, *Lilelm*, *Majallat Al-oloom*, and published scientific books); the data size; and how the corpora were processed. This is followed by a consideration of the available options for marking-up a corpus. There is then a step-by-step description of how the 1997-2000 and 2016-2018 parallel corpora were built, including the software used, and a detailed discussion of the results. The use of the passive voice in scientific writing is revisited, and historical trends in the use of the passive voice in writing are considered. This chapter concludes with a section discussing copyright issues and the software used to build the parallel corpus.

Chapter 4 deals with the analysis and discussion of the findings. This includes reference to the translation procedures used to translate the passive voice from English into Arabic, the structure of Arabic passive structures, the treatment of the English agentive passive, the passive verb form, and the measures of the passive verb in both the 1997–2000 and 2016–2018 parallel corpora. Next, the 1997–2000 and 2016–2018 comparable corpora are analysed. There is a preview of the texts used and analyses of the structure of the Arabic passives, treatment of the Arabic passive, the passive form context, and the measures of the passive verb.

The final part of this chapter compares the 1997–2000 and 2016–2018 parallel and comparable corpora results. The comparison includes the similarities and differences between the procedures used by the translators of the 1997–2000 and 2016–2018 translated corpora, as well as the structure of the Arabic passive, the treatment of the agentive passive, the frequency of use of the passive verb, the passive form context, and the measures of passive verbs in all corpora.

Chapter 5 summarises the 1997–2000 and 2016–2018 parallel and comparable corpora analysis results and concludes with a description of the research limitations and recommendations for future research.

Chapter Two

Literature Review

This chapter presents a broad background, which is aimed towards helping specialist and non-specialist readers understand the wider impact of translation on language change. It also aids non-Arabic speakers in understanding the structure of the Arabic language. Moreover, it provides evidence that the influence of the English language is not limited to the Arabic language but carries over to other languages as well.

2.1 Syntactic change and the influence of global English and English translation on other languages

The phenomenon of globalisation accompanied by the use of global English is spreading continuously. The spread of the English language today has never been achieved by any other language in recorded history (Johnson, 2009:143). Geographical-historical factors explain how English reached this position of dominance, and socio-cultural factors explain how it has maintained its status (Crystal, 1997:29).

The geo-historical factor began with the voyages of exploration and colonisation that took place in the Americas and the rest of the world. The spread of English (initially in the form of Old English) in fact started much earlier, in the fifth century, after its arrival in England from northern Europe. During that time, the English language mostly spread locally, and its global influence did not begin for another 1,200 years. Following English expeditions to America, the country now known as the United States became the largest recipient of migrants in the world. The first permanent English settlement began in 1607. By 1640, the number of English immigrants had reached 25,000. By 1720, when the Irish immigration increased, the number of Irish and Scottish immigrants had reached 50,000; and by 1790, the total population had reached 4 million (ibid, 31-33). In the 100 years following that, migration extended to the western parts of the country and the population came to exceed 50 million.

Despite the presence of other European languages – such as Spanish, French, Dutch, and German – and a number of African languages in what is now the United States, English was used to maintain American colonial unity. It brought people together and ensured a common ground during that time. English also spread to Canada and the Caribbean, as well as Australia, New Zealand, South Africa, West Africa (including Sierra Leone, Ghana, Gambia, Nigeria,

Cameroon and Liberia), East Africa (including Botswana, Kenya, Lesotho, Malawi, Namibia, Tanzania, Uganda, Zambia and Zimbabwe), South Asia, South-East Asia (including Hong Kong, Papua New Guinea, Singapore, and Malaysia) and the South Pacific (*ibid*).

The spread of English was also helped by the unprecedented expansion of access to knowledge through advances in technology, especially transportation, which enabled greater distribution of English books and brought people closer together. In the past 20 years in particular, the internet has pushed people towards using English as the primary means of expression, as well as giving them easy access to English language-based material in the comfort of their homes. The dominance of English in the media has played a major role in the spread of the language, especially following the invention of new printing technology, advertising, broadcasting, cinemas, and music, which have mostly been in English (*ibid*, 100). It has been suggested that the simple nature of English grammar and vocabulary makes it more suitable for advertising, writing, and music than other languages, which has helped in raising its popularity (Johnson, 2009:136). However, the popularity of a language has less to do with its nature and more to do with the power of the states in which its core speakers live, and the English language is not simple and easy for all learners. Germans might find English relatively easy to learn because the two languages share many similarities. However, the native speakers of languages belonging to different language families – such as Japanese – find English more challenging.

Due to different historical and other circumstances, people often identify English as the international language of business, science, medicine, and even journals and research reports (Sano, 2002). Johnson (2009:133) conducted an interview-based study when she was teaching at an international programme on ‘Globalisation in Perspective’. Her subjects were students – young adult English language learners from Beijing, China, as well as adult English language learners from Maastricht in the Netherlands. All the interviewees reported economic reasons as their motivations for learning English. That acknowledged, there are different reasons for learning a language, English in this case, including personal and cultural factors: to communicate with English-speaking relatives or friends; to play games online; to watch media and read literature in English; to take online courses in art, cooking, music, and so on; and/or to travel around the world, etc.

Businesses looking to grow multi-nationally must find cost-effective ways to interact. In attempting to streamline their communication, many businesses have adopted the use of

English throughout their organisations. Germans use English to communicate with Malaysians, and Saudis use it to communicate with Japanese. In fact, it is estimated that approximately 85% of international organisations use the English language. In addition, in Europe, numerous business fields favour those who speak English along with their native language, paying them 25–35% more than their non-English-speaking counterparts (*ibid*).

English, however, does not dominate all fields of science. According to Berghammer (2008:217), regarding the use of English, there are three categories of sciences: (i) those such as physics, which use English as their lingua franca; (ii) those such as economics, which are influenced by English; and (iii) those such as law, which use the native language of their country. It is reported, in non-English speaking countries, English-language publications jumped from 31% of the total in 1970 to 58% in 2000, while research by French scientists published in English went from 16% of the total to 93% between 1970 and 2000 (*ibid*). This unification of the language of science is said to affect researchers' use of their native language, put users of other languages at a disadvantage, and put pressure on researchers to learn and use English (or pay for their papers to be translated into English). Its use is even seen as a danger to standard English. However, it benefits both readers and authors, as it ensures greater accessibility and distribution of knowledge and limits the duplication of work.

It has been suggested that between the 13th and 18th centuries, the term '*nomen proprium*' referred to a vernacular adopted as an auxiliary language by merchants, soldiers, and pirates who spoke different languages across the Mediterranean coast (Fiedler, 2011:81). UNESCO broadly defines a lingua franca, as used today, as a language used to facilitate communication between people who do not share the same native language. While traditionally, a lingua franca is not the native language of its speakers, this is only partially the case with English, which is considered a universal lingua franca while being the native language of a considerable number of its users (Fiedler, 2011). According to Kachru (1985, cited in Fiedler, 2011: 80), the English language around the world is divided into three circles:

- Inner circle: this is when it is used as the official language of a country and the native language of its speakers, for example, the UK.
- Outer circle: this is when it plays a large role in a country as a second language and is used in administration, media and education, for example, Singapore.

- Expanding circle: this is when it is used as a foreign language and does not have an official status but is learnt for international communication purposes, for example, Saudi Arabia.

It is difficult to know the number of people who speak English in every country because a calculation is affected by many factors, including the lack of data from some countries and the difficulty of measuring a person's command of a language and assessing whether it is good enough for them to be considered fluent. However, in the early 2000s, a modest estimate of the number of people who speak English as a first language (the inner circle) was 329 million, with some estimating closer to 400 million. Second language speakers of English (the outer circle) were estimated to be amount to 430 million people (*ibid*, 67). The size of the expanding circle (i.e., speakers of English as a foreign language) is the most difficult to estimate, primarily because there are so many levels – from beginner to advanced – and it is difficult to measure a level of language competence. The British Council, as well as market intelligence, have reported that approximately a billion people are learning English (attending courses or taking exams) (*ibid*, 68). Interestingly, Graddol (1999, cited in *Fiedler, 2011: 71*) suggested that the number of speakers of English as a first language would decline from 1950 to 2050, with the rise of other countries – such as China – with larger populations (*ibid*, 71). However, 20 years after Graddol's prediction, the number of speakers is still increasing.

According to *Crystal (1997:9)*, a language does not become global simply because of its structural properties, the size of its vocabulary, its history, its culture or religion. It becomes global for one reason: the power of its speakers – specifically their political and military power. Arabic, French, German and Spanish have each been able to develop an official international status, but only five languages in recorded history have been able to have an overpowering impact as culture carriers. These are Arabic, Classical Chinese, Greek, Latin, and Sanskrit (*Thawabteh, 2011*). *Johnson (2009: 141)* reports that the dominance of the English language may be a passing phase as history shows that many languages have risen and fallen in line with the powers of the people who spoke them. It is claimed that the glory of the English language will not last much longer with other languages earning more recognition as the countries that speak them gain more economic power and more dominant global roles. Although English is dominant, it is spoken as a first language by only a minority of the world's population and not all of those who speak it as a second language have full command of it. Other languages like

Spanish, Arabic and Chinese are still very effective in reaching large audiences. There is bound to be another competitor to the status of English language eventually.

The second reason why a language becomes global is that human beings naturally tend to dislike and fight against domination. There are many people who refuse to learn English even when they migrate to English-speaking countries. For example, a large proportion of South Asian (Indian, Pakistani and Bangladeshi), Chinese and other first-generation migrants who came to the UK never learnt English or make any efforts to do so. Instead, they stay connected to their own people, watched television in their native language, and stay closely tied to their community's sense of identity and culture, even while living in a new country and despite the country's efforts to include them and teach them their language.

Thompson and Begum (2005: 15) conducted a study interviewing 30 people of a similar number of men and women from India, Pakistan and Bangladesh communities living in the UK. The interviewees' ages ranged between 49 and 86, and all participants had arrived in Britain between 1956 and 1972. All had made return visits to their countries of origin, and most had close relatives there. The data were collected by analysing the pre-interview questionnaires and the interview transcripts.

More than a third of the interviewees described themselves as fairly or fully fluent in English, although the majority had a limited command of English and a minority did not speak any at all. Almost all spoke their native tongue at home, and English was kept as the language for the outside world. Some had no or limited interaction outside of their own communities.

A significant number of Chinese people who come to the UK in search of opportunities can only speak their own language. This is especially true for those who run their own businesses, including shops and restaurants. It has been reported only 50% of the Chinese living in the UK and aged 45-64 years can speak fluent English. In addition, they are less likely than other groups to register as unemployed or seek help from the government, and it has also been shown that language can form a barrier to public services (Chan, et al. 2004: 3). While it is true that education is obligatory for all UK citizens, not everyone has access to it, and part of the population is not legally registered with the government. Chinese-majority and Pakistani-majority neighbourhoods exist in many English cities. It is, however, limiting to describe an

ethnicity using one word (e.g., ‘Pakistani’), as most ethnicities involve sub-groups with ‘sub-languages’ and different cultures.

Zuccotti and Platt (2016) conducted a study on the impact of neighbourhood racial composition, focusing on five ethnic minority groups: Indian, Pakistani, Bangladeshi, Caribbean and African. The study revealed that Pakistani and Bangladeshi women had lower participation in the labour market and lower occupational accomplishment, and they were more likely than other groups to have little to no contact with others outside their community (Thompson and Begum, 2015: 19). There are some cities in the UK where ethnic minority groups have a very large presence. For example, Leicester – where Indians make up 25.7% of the population – has the largest geographical concentration of Asian citizens in Britain. In Bradford, Pakistanis make up 14.5% of the population; and in Tower Hamlets, Bangladeshis form 33.4% of the population (ibid: 11).

Chan, et al. (2004: 5-22). conducted a study on the unmet needs of Chinese people in the UK, collecting samples from Chinese-concentrated areas and from other, more thinly spread areas. The authors report that 39% of the Chinese population live in London and Manchester. In terms of education, the respondents in Cardiff and Lincoln said they sent their children to Chinese schools. However, due to a lack of funding, these schools experienced teacher shortages and inadequate teaching materials. Crawley (2009: v) points to evidence that places are not always available in compulsory education for immigrant children. Different ethnic groups are known to have different educational outcomes, but the literature provides no clear explanation for the disparities in educational performance among ethnic minority and immigrant children. This situation may have improved in recent years.

For those living in countries where English does not have official status, students’ attitudes towards learning the language are generally positive, and such students are generally highly motivated, as confirmed by a number of studies in Malaysia, Bangladesh, Persia, Japan, Turkey, Spain, Jordan, and Saudi Arabia (Ahmed, 2015: 9). However, it is common to see non-English speakers who have graduated from English-medium universities unable to hold full conversations in English. There are individuals who study English only to ‘pass’. Some will memorise phrases, structures and sentences without understanding what they truly mean. Many Chinese and non-English students in the UK rely on native speakers for academic and commercial services. Some Chinese students choose international universities only because they are seen as good alternatives given the limited capacity of Chinese universities, with status

and prestige attributed to those accepted into recognised Western and international universities (Edwards and Ran, 2009:1).

The attitude of English learners is one topic that has received its fair share of research attention. Various factors contribute to attitudes towards learning English, and it would be wrong to assume that all are positive – or indeed, all the same. For example, in India, English remains the language of prestige and economic power. However, people who learn English in their own countries might feel resentment towards the dominance of the language and view it as a threat to their culture or diminishing the status of their own language. Ahmed (2015: 8) reports that, when external pressure is the only reason for learning a second language, internal motivation can be poor and attitudes toward learning less positive. Power relations between languages can also affect the motivation to learn a language – for example, when individuals from a minority group are obligated to learn the language of a majority group. The attitude towards English could also be related to the variety. For example, in Ghana and Nigeria, educated people view speaking English to be acceptable, but the use of British pronunciation would be distasteful, as the aim is not to speak English like a native speaker (ibid).

The issue of the English language is complex in many ways. As explained previously, English initially rose to dominance because of the power of its speakers, as other languages had done previously. However, it has since reached peaks never reached before in recorded history by any language; and the more it rises in global status, the more other languages become obsolete. Johnson (2009: 143) reports that, by the end of the century, 50-90% of the world's languages may have gone extinct. (i.e. following the deaths – and non-replacement – of their native speakers). For example, around the world – in the United States, Canada, Australia, and the UK – many of the offspring of migrants do not speak their parents' native language, either because their parents spoke only English to them and did not teach them their native language, or because they learnt English from a young age at school and never attempted to learn their parents' language. Some migrants do teach their children their native language; and as a result, their children become either 'receptive bilinguals' (receptive bilingualism is when someone understands but does not speak a language) or bilinguals who can speak the language only informally and cannot read or write it. This results in a new generation without a good command of that language, who may or may not teach it to their own children (second and third-generation immigrants), and that language may then begin its slow death. Alonso, et al. (2014: 3) confirm that this has been the case for the majority of the languages that have

migrated to the United States (with the exception of Spanish), including German, Yiddish, Italian, Chinese, Polish, Tagalog, Yoruba, Twi, Igbo and other Western African languages, Amharic, Somali, and other Afro-Asiatic languages, Haitian, Russian, French, and Arabic. In all these language communities, the native language remained for a period of time, only to be overshadowed then buried by English. For this reason, the United States has often been referred to as a ‘language graveyard’.

Bennett (2013: 172) defines ‘lingua franca English’ as a unique variety of the language, different from that spoken by native speakers or other culturally embedded forms. English did not exist as a lingua franca before the 17th century (Mauranen and Ranta, 2009: 1; Bennett, 2013: 172). It initially emerged as such due to British colonisation and retained this status after America became the dominant world power, following the end of the Second World War in 1945, as the official language of the United States (Berghammer, 2008: 216). The Bologna Declaration of 1999, which required the universities of 29 European countries to follow the British system, played a major role in increasing the influence of the English language, resulting in greater demand for translation. Academics from all around the world strive to get their work acknowledged globally, which has created increasing demands on translation from different languages into English. Interestingly, it has been noted that while academic works translated *from* English tend to adhere closely to the source language, those translated *into* English tend to be ‘domesticated’ to ensure their acceptability (Bennett, 2013: 172).

The increasing emphasis on English has led to a significant increase in English translations (Al-Dabbagh, 2005). The extant literature shows that the nature and process of translation leave their trace on translated texts (Baker, 1998) and on the linguistic development of native languages (Dingwaney and Maier, 1996; Dickins et al. 2016). Thus, researchers point out that there are consistent debates concerning the use of English as a global language and the associated impact of translation on other languages (Sabbah, 2015; Reddawi and Meslam, 2015).

As mentioned, some may view the English lingua franca as a threat to their own native languages, believing it to be erasing their culture and identity; but this concern is debatable. Hüllen (1992, cited in Fiedler, 2011:82) observes that English as a global language is used as a language of communication and not as a language of self-identification: thus, the lingua franca is used for communication purposes, with non-native speakers not identifying with it as

a cultural symbol. It is a question for the individual whether they want to use the language to communicate in a specific situation or as a bearer of their identity (*ibid*). Although the English language is spreading around the globe, it is not British, Australian, or Canadian cultures that are primarily being promoted, but rather that of the United States. A considerable number of people, particularly the young, are influenced by American culture, lifestyle, Hollywood films, pop culture, and the ‘American dream’. In recent years, with the emergence of the internet, American culture has become ever more popular and desired by people globally, slowly erasing local traditions and national identities, despite not being of superior value in any way. This is not a black-and-white matter: there is no right or wrong answer on the role of English as a global language. Furthermore, it is not possible to predict the future of English across the world.

Ironically, in the United States, the Spanish language – that came along partly with the immigrants from the Spanish colonies during the second part of the 19th century, but primarily with the 50 million migrants who have arrived from Latin America in recent decades – has become widespread. Statistics show that the United States comes second only to Mexico for number of Spanish speakers. The Spanish language is not only used in many homes and in daily informal communication in cities across the United States; it is also used in professional fields and public life (Alonso, et al. 2014: XIV). This dominance can be attributed to various factors, including the existence of large extended families and strong family ties; strong associations with – and trips to – the home country; a strong Spanish media presence in the United States, especially in cinema and pop culture; the global expansion of Spanish; and most importantly, the continuous flow of Latin American immigrants into the United States over the last 50 years, maintaining a continuous pool of first-generation speakers.

2.1.1 Language change

When a language becomes global, the clearest current example of this being English, it will inevitably affect the other languages with which it comes into contact. For example, it is argued that the influence of English on the Italian language is pervasive and noticeable even to the ordinary person, with impacts observed in various fields – ranging from the formal registers of science and medicine, and the media and journalism, to the informal registers of everyday conversation (Demata, 2015). French and Italian exercised similar effects on other European languages in the past; but the current economic, technological, cultural role that English plays in the world has given it greater power in various fields and linguistic disciplines, such as

semantics, lexicology, phonology, morphology, syntax, sociolinguistic, etc. (Varga, et al. 2011).

During Italy's fascist era (1922–1945), the replacement of Italian words with foreign ones was punishable by fines and even imprisonment. Nonetheless, the beginning of the 20th century saw the emergence of English loanwords in the Italian language, even though it was a time when any sort of foreign word was stigmatised and forbidden. Following the end of that era and up to the early 21st century, English has been seen as a liberating language, associated with cosmopolitanism and the modern world. Italian speakers use English words instead of their available Italian counterparts because they find the English alternatives more fashionable, prestigious, and authoritative. It is estimated that at least 2% of Italian vocabulary consists of English words. By contrast, the English language is not perceived the same in all the languages it came in contact with. For example, the war against the incursion of English loanwords that try to enter the French language is well organised and is managed by coordinated institutions that aim to protect and maintain the French language's qualities (Varga, et al. 2011; Demata, 2015).

Where languages come into contact, it is natural for one to influence the other. This occurs especially when people view one of the languages as having a higher status than the other. Minority languages are generally influenced by dominant languages spoken during the same period. Moreover, linguists acknowledge that language contact leads directly to language change (Thomason, 2001). This is a gradual process and may involve several generations of speakers; it may even extend over centuries. For example, it is well documented that Modern Standard Arabic (henceforth MSA), the modern variety of Classical Arabic (henceforth CA) which developed over the last 200 years, has been influenced by European languages due to Western cultural influence (Al-Khawaldeh, et al. 2014). Language change is not usually an intentional process. Over a historical period, language changes at every level of structure: vocabulary, phonology, morphology, and syntax (Kroch, cited in Baltin and Collins, 2000). It is not possible to predict language change, either internal or external (Božović, 2014). Tsai (2007:10) breaks down the possible outcomes of language contact into three types: language creation, language maintenance, and language shift.

Many Arab scholars reject the notion of simple language change, regarding any change as language decay and calling for protection of the ‘purity’ of the Arabic language. [Hickey \(2010\)](#) reports two reasons for this attitude:

- the general human yearning for immutability
- the association of a particular change with a social group of which the commentators disapprove (e.g., adults versus teenagers)

Nevertheless, Arabic was never a ‘pure’ or even homogenous language, in the ordinary sense in recorded history. On the contrary, even the earliest texts – including the Holy Quran – show evidence of syntactic and morphological variability ([Holes, 2004:310](#)).

When investigating language change, several scholars have examined different situations of language contact which impact languages. Languages can come into contact in different ways, direct and indirect ([Hickey, 2010](#)). In direct contact, speakers of one language come face to face with speakers of another language, mainly as a result of emigration, invasion, conquest, etc. In indirect contact, contact takes place through literature, the internet, television, radio, etc. Language contact through other media platforms can also be called ‘distant contact’. It is seen as one of the primary means for promoting the dissemination of vocabulary denoting ‘universal’ notions (in particular English vocabulary) to other languages ([Tsai, 2007:10](#)).

2.1.2 The influence of global English and English translation on the syntax of other languages

Most previous studies have focused on two major social processes that give rise to contact situations: conquest and immigration ([Sankoff, 2005](#)). Some scholars add a third process: bilingualism ([Thomason, 2006](#)). These factors are, however, not the only ones that trigger language change. [McLaughlin \(2011a: 22\)](#) suggests that translation is a mechanism that allows languages to influence one another, much like code-switching by bilinguals. Translation, hence, can result in language change. Translation is a form of language contact ([Bisiada, 2011](#)). [McLaughlin \(2011a: 22\)](#) argues that linguistic change induced by translation has influenced the evolution of most languages around the world.

The first traces of translated texts were found on stones and animal skins in Egypt, dating back to 3000 BC; but official translation may have started when Livius Andronicus translated Homer’s *Odyssey* from Greek into Latin in 240 BC. Translation has always been a significant factor in the growth of societies and cultures and in the development of languages and bodies of

literature worldwide. For example, for many African languages such as Yoruba and Xhosa, writing systems were only introduced because missionaries and churchmen wanted to translate the Bible into the local languages. For this reason, these languages developed and consequently influenced the development of African literature (Sadiq, 2010: 2).

The history of translation can be divided into two periods: before and after the 19th century. Before the 19th century, most translated texts were concerned with religion, philosophy and literature. Between the 9th and 10th centuries, the House of Wisdom was established in Baghdad, where ancient works, such as those of Greek philosophy, were translated into Arabic. In the 19th century, translation gained more general importance in different fields as the method of communicating between scientists all over the globe. The 20th century is sometimes considered the ‘Translation Era’ (Mohammadian, et al. 2017: 23). Translation between languages generates contact settings in which lexical or structural changes may occur. The way in which one language reacts to another – whether by accepting, translating, or rejecting its elements – reveals its innate formal tendencies and the psychology of its speakers (Hoffer, 2002:4). The outcome of language contact through translation, as Božović (2014) reports, may be lexical, morphological, syntactic, and/or pragmatic/stylistic. Languages can influence one another via structural borrowing through translation, though lexical borrowing is more prominent than structural borrowing (Hoffer, 2002:3; Božović, 2014), and the latter is typically limited to syntactic borrowing (Božović, 2014).

Interestingly, with lexical borrowing, the level of contact dictates the extent of the linguistic features being borrowed – thus, the borrowing may vary from casual to extreme in degree and from strictly lexical to strong structural borrowing. Lexical borrowings may be subject to semantic alteration and incorporated into the phonological, morphological and syntactic patterns of the recipient language (Tsai, 2007:11). Božović reports that the translation of the Bible from Latin into English significantly influenced the lexicon of English, as can be seen in the English language today. A number of Biblical phrases are commonly used today in many genres such as politics, sport reporting, etc (2014, 521).

In a corpus-based study which uses the Lancaster Corpus of Mandarin Chinese and its translational counterpart, the ZJU Corpus of Translational Chinese (each totalling one million words), Xiao and Dai (2014, 7) compared original Chinese texts with texts translated into Chinese from English, looking at their lexical density, high frequency words, and lexical and

grammatical properties. The texts are taken from materials published in China, and – for 99% of the translated texts – the source language was English. The authors revealed that, compared with the translated texts, native-Chinese texts have higher lexical density and greater information load, while translated Chinese texts have a higher percentage of function words. Interestingly, they report little difference in lexical variability between the original and translated texts. The study also revealed that translations had not necessarily simplified the original texts, as the average word length was longer. In addition, the translated Chinese texts made greater use of auxiliaries, pronouns, prepositions, numerals, and conjunctions. In most languages, translations use a higher frequency of function words, and auxiliaries were predictably more common in the Chinese translations than in the original texts. Thus, the authors conclude that Chinese translations are highly influenced by their English source texts.

Some studies claim that structural change can only occur when the source and receiving systems are very similar (Meillet, 1921:87, cited in Thomason, 2006). This is true to a certain degree: when the source and receiving language belong to the same language family and are very closely related, with no significant typological differences between them, and when they share key structural and lexical features, structural diffusion from one language into another is more common (Thomason, 2006). On the other hand, it is argued that it is quite possible for languages that do not belong to the same family and which have different structural and lexical features to influence one another. For example, although large groups of Japanese speakers have no significant cultural contact with English speakers, and the two languages belong to different families, the Japanese language has borrowed significantly from English (Hoffer, 2002:13).

There is growing academic interest in translation-induced language change; and such changes can be traced in many European and non-European languages that are fundamentally different from one another. For example, mainland Chinese has also seen translation-induced syntactic changes. Cao and Yu (cited in Wang and Sun, 2015: 209-210) published a study on Chinese that confirms contact-induced grammatical features have been identified in the documents between the Han and Tang Dynasties, a period which saw the translation of Buddhist sutras from Sanskrit into Chinese. The influence of Sanskrit resulted in new grammatical forms in Chinese, resulting from Sanskrit or Pali translations and language contact between people of various ethnic groups. English translation-induced language change is observed in many

languages, including Taiwanese Mandarin, mainland Chinese, Japanese, Hebrew, Punjabi, German, Greek, French, Czech, Italian, Swedish and Arabic.

Several studies have identified English-derived syntactic feature changes in Taiwanese Mandarin (Wang, 1945; Kubler, 1985; Hsu, 1994; Tsai, 2007). Kubler (1985) examined the influence of English on Taiwanese Mandarin at the phonological, syntactic and lexical levels, and Kachru (1994) confirms the existence of various translation-initiated changes in Taiwanese Mandarin. One characteristic that reflects the impact of English on the syntactic level of Taiwanese Mandarin is alteration in word category, order, or function within a sentence (Tsai, 2007:59). Similarly, Gao (2006) presents a study on the Englishisation of the Chinese language in syntax, arguing that many language characteristics reflect the impact of English on the structure of Mandarin Chinese. Furthermore, Xie and Wang, (2002, cited in Xia, 2014) contend that translation has resulted in a tendency towards Europeanisation at the syntactic level in modern Chinese. Xie (2001, cited in Xia, 2014) confirms that translation from English into Chinese has resulted in changes in parts of speech, frequency of specific sentence structures, formalisation of syntax, and position of subordinate clauses within complex sentences. Wang (2002, cited in Xia, 2014) reports that translation into Chinese from English has resulted in an increase in the use of the passive voice, as well as greater complexity and variation within sentence structures.

Japanese has also been influenced by translation, incorporating many thousands of English words. Many English nouns are now used as Japanese verbs: for example, *shoppingu suru* ‘to do some shopping’, adding Japanese *suru*, meaning ‘to do’, to the noun ‘shopping’ to create a verb. In some cases, whole phrases are borrowed into Japanese: for example, *redl fusuto* ‘ladies first’ and *man tsli man* ‘man-to-man’. Moreover, numerous English adjective and adverb loanwords take Japanese adjectival and adverbial endings (Kay, 1995).

Verma (2015) investigated the impact of English and English translations on the Punjabi language. The author argues that changes have been seen at both the lexical and syntactic levels, with clear changes in word structure and stress shift.

In a remarkable study, House (2006:43) examined the influence of English translation on other European languages, including German, French and Spanish. House took a case study approach, with a detailed contrastive analysis comparing English source texts, German

translations and German original texts. Her results reveal that the German texts underwent changes in terms of text function and register-specific variation of the use of certain linguistic means. Furthermore, she demonstrates that the changes in the German language are not realised by a new repertoire of linguistic means, but rather the changed employment of existing linguistic means. She adds that the German language system seems to change when it comes into contact with English. German translations thus tend to be closer to their English source texts than to corresponding German original texts. In addition, German linguistic means belonging to the functional categories of conjunction, pronouns and particles adapt to English conventions of textuality. In a more recent study using a diachronic comparable corpus and a diachronic parallel corpus, Bisiada (2016) observes a shift from hypotactic, hierarchical structures towards paratactic, incremental structures in the German language, which the author attributes to contact with English through translation.

Plecháčková (2007) suggests in a study investigating the effects of English translation an increase in the use of the passive voice in Czech original texts, though it remains less common than in the English translations.

English translation has left its mark on Italian syntax as well. McLaughlin (2013) conducted a case study that combined fieldwork with the linguistic analysis of a corpus of translated texts and found that news translation was a source of syntactic borrowing in the Italian language. Musacchio (2003) conducted a corpus-based study comparing English-Italian translations of popular physics articles with a corpus of original Italian articles on the same topic, concluding that the translations tended to use English-type information structure. However, she noted that certain syntactic constructions that exist in Italian are often more frequently used when in contact with English. Megec (2015) also reports some syntactic-level changes in Italian, especially in economics articles, marketing and youth jargon.

Both professional linguists and observers of the French language have observed that French syntax is in the process of changing as a result of contact with English. In a corpus-based study, McLaughlin (2011b) investigates the influence of English on French syntax. Her results reveal that the increased use of passive and of verbal ‘-ant’ forms is due to English influence. Likewise, Monnier (2015), reflecting on French and English translations, concludes that translation has caused some changes in structures. Similar observations have been made about Swedish fiction translated from English (Gellerstam, 2005).

Thawabteh (2011) and Rouchdy (2013) note that Arabic has borrowed from English – most commonly, nouns (Thomason, 2006; Rouchdy, 2013). Some have argued that Arabic structure has not been influenced, and the language has only borrowed words from other languages (Khrisat and Mohamad, 2014:134). In a detailed study, however, Asfoor (2007) discussed the impact of translation from English into Arabic. While this included benefits – such as enriching the Arabic language with countless lexical items from different fields – these newly coined and combined words have affected the structure of the Arabic. The English language has influenced many of Arabic’s linguistic features, including lexicon, phonology and phonetics, morphology, syntax and abbreviations. With respect to the lexicon, Asfoor reviewed the prefixes, suffixes, and affixes that are problematic when added to the Arabic language. While borrowing words from one language into another is very common, borrowing affixes that do not belong to the same language family is rare. For example, while Arabic and Turkish belong to different language families, many colloquial dialects have borrowed *-ji* from Turkish, as in قهوجي *gahwaji* ‘tea-shop/coffee-shop, owner/worker’. However, the use of English affixes in the Arabic language is worrying in terms of the desire to maintain the historical continuity of Standard Arabic, because it imposes a linguistic element in a language where that element is not part of the traditional resources of the Arabic language. An example is using the suffix *-ik* in حمض الكبريتيك *ḥamiḍ al-kibrītik* to translate the chemical component ‘sulfuric acid’ into Arabic. In phonology and phonetics, two new sounds have at least marginally entered the Arabic language from English (though they are also found in some Arabic dialects): the arrivals of ‘v’ and ‘p’ have required publishing houses to add new letters to the Arabic language represent these sounds. These are called ‘the triangle v’ and ‘the triangle p’, and can be written as ف, and پ, respectively. This conflicts with the conclusions of Rouchdy (2013) and Khrisat and Mohamad (2014), who argue that Arabic is more likely to adopt English words by using the closest Arabic equivalents to the original sounds. In morphology, a number of free Arabic morphemes may be combined to produce compound words that are different in nature from standard-form Arabic words. For example, the English word ‘Indo-European’ is translated and used in Arabic as هندو أوروبية *hindūrūbī*. There is a tendency to use English syntactic structures in Arabic sentences. For example, in English, ‘more’ is often followed by an adjective or an adverb to express the comparative. This usage is increasing in the Arabic language at the expense of original structures. For instance, أكثر دقة *akṭaru diqqah* ‘more exact’ is used instead of أدق *adaqq* ‘more exact’. Similarly, while abbreviations are used in Arabic, they only occur

in certain contexts and specific fields, such as the Quran and the Hadith. For example, ةـ ‘e h’ is used to refer to quoted words. In English, however, abbreviations are very common and found in all fields, even in spoken conversations. However, abbreviations are now used more frequently in Arabic than they once were. For example, هـ ‘h’ and م ‘m’ are used to refer to the Hijri and Gregorian calendars, respectively. [Khrisat and Mohamad \(2014\)](#), though very beneficial and insightful, is general in scope and provides only an overview of the linguistic features of the Arabic language that have changed as a result of translation. All the studies which I have considered in this section highlight partial links between the process of language contact and change and translation.

2.2 Background: origins of the Arabic and English languages

2.2.1 Origins of the Arabic language

A brief summary of the history of the Arabic language is necessary to provide a context for the linguistic concerns at hand. It would be wrong to assume the history of the Arabic language began with the spread of Islam. As a matter of fact, the earliest mention of the term 'Arab' dates back to the reign of the Assyrian King, Salmanassar III (858-824 BCE) ([Al-Natheema, 2012](#)). Some early first-millennium BCE epigraphic records mention Arabic; but evidence of Old Arabic is scarce, and little is known about the structure of the language. According to [Yushmanov \(1961\)](#), literary Arabic first arose from the ancient poetic language of the Arabs. Though every tribe had its own dialect, a unified language was used for poetry, which preserved it from disintegration. There is also some evidence of interaction between Arabic and a number of other Semitic languages and Greek (see [Al-Jallad, 2020](#) for more information about Old Arabic). The Quran followed soon after and remains the model for the classical language to this day, being only slightly modernised to meet contemporary requirements. As a result, ‘Arabic is the only living language in the world whose books continue to make sense to its readers, linguistically, 1400 years after’ ([Othman, et al. 2014](#)). Moreover, Arabic has one of the few systems of grammar that was developed with little foreign influence ([Lipiński, 2012](#)).

Arabic is one of the most widely spoken languages in the world. It is spoken by more than 200 million people across the Middle East and North Africa, as well as being the ‘liturgical language’ (a language that is used mainly for religious reasons by people who speak another primary language) for over one billion Muslims across the world ([Ryding, 2005](#); [Shah, 2008](#)). Arabic belongs to the ‘Semitic’ language family, a term coined in the late 18th century CE (*ibid*). The study of Semitic grammar (Arabic, Syriac or Hebrew) began with a desire to

establish correct readings and proper interpretations of the Holy Scriptures, the Quran, and the Bible, both in their formal and semantic aspects (Lipiński, 2012). The need to study and fix the rules of CA led to a rise in native Arab philology – i.e., the branch of knowledge concerned with the structure, historical development, and relationships of a language. By the end of the 8th century, Al-Khalil ibn Ahmad's كتاب العين *Kītāb al-ʿayn*, literally meaning ‘*The Book of The Eye*’, and Sibawayhi's الكتاب *al-Kītāb*, literally meaning ‘*The Book*’, set the foundations of CA grammar and lexicography (Ryding, 2014).

The influence of Arabic on other languages throughout history

The period of the 7th century and the beginning of Islam shaped the destiny of the Arabic language. The Quran plays a major role, not only as the word of God, but as an example of Arabic in its purist form. After the death of the Prophet Mohammad (peace be upon him), and during the spread of Islam, his followers identified the need to put the Quran into a written form. It was feared that, if they did not, it would be lost with the death of the Prophet's followers, as there was an increasing number of Muslims from outside of the Arabian Peninsula who did not know how to read the Quran correctly. The Quran is believed to have been the first effort to standardise the Arabic spelling system (Aboeizz, 2015: 13-14).

With the huge expansion of Islam, Arabic began to exercise a strong influence on other languages and peoples, including non-Arab Muslims (Persians, Turkish, Indians) and on non-Arab groups that did not embrace Islam (the Mediterranean island of Pantelleria, the Balearic Islands) (Yushmanov, 1961), but used their own scripts to write Arabic (for example, Aramaic Christians used the Karshuni Syriac script; *ibid*). Arabic influence on other languages was most widespread between the 8th and 12th centuries (Othman, et al. 2014). Arabic linguistic influence extended to Europe, Africa and East Asia. Islam formed an empire that extended from Persia to Spain. Classical Arabic was not only used as a written language, it became the spoken language of the elite in formal situations (Aboeizz, 2015: 15). Arabic then became the primary language for scientific and cultural output throughout the Islamic empire. It was used by Arabs and non-Arabs, Muslims, and non-Muslims. Soon after the rise of Islam, scholars began analysing the linguistic properties of the Quran and focusing on the language of the text and the way it was written rather than merely the content and what it implied.

The following languages – and many others – have adopted words of Arabic origin (*ibid*).

- Bahasa – Indonesia

- English
- French
- German
- Italian
- Kannada (Prasad, 2013)
- Persian
- Spanish
- Turkish
- Urdu (Islam, 2011; Khansir and Mozafari, 2014:2362; García and Yapici, 2014)

Arabic has left a particularly strong mark on Turkish and Persian. Turkish is a Turkic language sometimes regarded as belonging to the wider Altaic family, along with Japanese, Korean and Mongolian, Turkic being a sub-branch of the Ural-Altaic language family. It is spoken by approximately 74 million people in Turkey, and 3-5 million in some parts of Greece and the former Republic of Macedonia (NMELRC and AATT, 2011; García and Yapici, 2014). Turkish borrowed countless terms from Arabic during the Ottoman era, which lasted more than 600 years, from the 11th to the 19th century (Moya, 2008: 1). The language was even named ‘Ottoman Turkish’, after the founder of the dynasty ‘Osman’, whose name derives from the Arabic personal name عثمان *Ṣuṭmān*. The influence of Arabic resulted from direct rule and religious ties. The loaned Arabic terms used in Turkish are not limited to certain fields, such as agriculture, as is the case in some languages, but rather are found in numerous fields – including literature and politics (Maalouf, 2009). The borrowing was not necessarily driven by any absence in the Turkish language, but rather by the prestige and status associated with Arabic (Moya, 2008). Before 1930, words of Arabic origin made up around 51% of the terms used in Turkish newspapers. However, in the late 1920s and early 1930s, Mustafa Kemal Atatürk promoted the de-Arabization of Turkish. This continued throughout the republican era, spearheaded by the Society for Turkish Language Research; and as a result, the percentage of Arabic words had fallen to just 26% by 1965 (Versteegh, 2001). Despite the loss of the rich Ottoman linguistic heritage and the systematic campaign waged against all traces of Arabic, Turkish today includes at least 6,463 words of Arabic origin.

Another language which has been profoundly influenced is Persian. The Persian language belongs to the Indo-Iranian, or ‘Indo-Aryan’, language family, which is a branch of the Indo-European language, a family that include some of the most widely spoken languages in the

world (e.g., Romance, Slavic, Germanic, Celtic, and Greek). It is the official language of Iran and spoken by approximately 67 million people. Persian has undergone multiple changes over the past 2000 centuries, but the influence of Arabic has, without doubt, been the most significant. Arabic was the scientific, religious and official language of Iran until the beginning of the 11th century AD (6th Hijri century) (Tabasi, 2014). While some Persian terms were adopted into the day-to-day vernacular of the Arabs and arabicised after the Arab conquest of Iran between the 7th and 12th century AD (1st to 7th Hijri century) (Shakib, 2011), Arabic exercised a profound impact on Persian. This was not limited to the Arabic vocabulary incorporated into Persian, but also included the writing system, phonology, grammatical elements, semantics, and so on (Perry, 2002). Arabic began influencing Persian with the Islamic conquest of Iran in 650 AD, despite having a phonological and syntactic system very different to that of Persian – and despite Arabic and Persian belonging to different language families (Semitic and Indo-European, respectively). Over the following years, Persian has borrowed up to half of its vocabulary from Arabic. The Persian alphabet even changed from Pahlavi to a modified form of the Arabic alphabet, which includes all the 28 letters of Arabic plus additional four letters (Khansir and Mozafari, 2014). Tabasi (2014) states that Arabic has influenced the phonetic, phonological, and grammatical systems of Persian. Arab writers and poets have influenced Persian writers and poets, who began writing poems in both languages. Approximately 8,000 Arabic loanwords are currently in use in Persian – comprising 40% of an everyday literary vocabulary of 20,000 words (Perry, 2002).

2.2.2 Origins of the English language

English is the most widespread language in the world. Interestingly, it began life as a migrant language, arriving in England with the invading Anglo-Saxons in the 5th century. Together with German, Dutch and the Scandinavian languages (with the exception of Finnish), English is classed as a Germanic language. These all developed from an original language, sometimes called ‘Proto-Indo-European’. The Indo-European language family includes most European and some West Asian and Indian languages (Algeo, 2005:49).

It is reported that approximately 84 languages (Bielenia-Grajewska, 2009) – or more than 120, according to Darwish (2015) – have contributed to the English language lexicon. Languages that have influenced English throughout history include (ibid):

- French

- Latin: Wycliffe's (John Wycliffe, c. 1330-84) first translation of the Bible from Latin into English resulted in a growth in Latinate lexical content and not only enriched the English lexicon, but also introduced at least 1,000 lexical items not previously found in the language (Božović, 2014: 516).
- Celtic languages: during the Germanic period, a number of Celtic words entered Old English, before settling in Britain. Examples include 'rīce' which means 'kingdom'. Interestingly, some Latin loanwords entered English through the Celts. During the early years of English settlement, a small number of Celtic loanwords were acquired. For example, 'cloak', 'badger', 'combe', and 'peak' entered English during the Germanic period (Algeo, 2005: 252).
- Italian
- Greek
- Non-European languages, including Arabic
- Other Germanic languages (e.g., 'noodle', 'angst', 'hamster').
- Scandinavian languages: many old English words with 'sk' (sometimes written as 'sc') are of Scandinavian origin. These include 'score' and 'scrub'. Examples of Scandinavian words that have entered Modern English include 'rug' and 'ski'. Most loanwords are related to daily habits, suggesting that the Scandinavians were not socially superior to the natives (Campano, 2016).
- Spanish and Portuguese: lexical items entered English from Spanish between the 16th and 20th century. Examples include 'alligator', 'avocado', 'chocolate' and 'tango' (some of these having been previously borrowed into Spanish or Portuguese from native American languages). Portuguese has only influenced English during the modern period, with examples including 'albino'.
- Indian languages (e.g., 'avatar' and 'karma' from Sanskrit).
- African languages: these entered English through Spanish and Portuguese (e.g., 'banana' and 'yam').
- Japanese (Bielenia-Grajewska, 2009) (e.g., 'karate', 'kimono', 'origami', and 'karaoke').

Algeo (2005:247) investigated the foreign contribution to the English language resulting from the Roman, Anglo-Saxon and Norman-French invasions. It has been argued that the mongrelised, pluralistic, inclusive and diverse characteristics of the English language have allowed it to succeed because it made use of the diversity of its speakers. Latin, French and

Greek are the three primary foreign sources of Modern English vocabulary. The Latin loanwords in the English language are clear. Latin influenced the English language during the Germanic, Old English, Middle English, and Modern English periods, and was learnt and used across Europe in both written and spoken forms. Latin was the language of religion, science, and literature. Without doubt, it is one of the largest sources of loanwords in English. The words 'area', 'medium', 'orbit', 'urban' and 'urge' all came from Latin. Latin first came to England through the Roman conquest in 50 AD, and the Roman period came to an end in 476 AD. Approximately 500 words of Latin origin were used in Old English before the Norman conquest, and the borrowing continued throughout the Middle English period following the Norman conquest. In some cases, it is impossible to tell whether a word has a Latin or French origin. However, an interesting difference between Latin and French loanwords is that Latin was introduced primarily as a written language, while French was spoken by the higher class and court in England following the Norman conquest. In the Modern English period, Latin became important again during the Renaissance (1530-1660), when there was a growing desire for knowledge. The desire to replace Latin with English resulted in a deeper understanding of old Latin and more loanwords, including 'strict', 'alienate', and 'eradicate' (Rita, 2012:6).

A large number of French terms entered Middle English during the late Anglo-Saxon period, when England had a close relationship with France, and entered Modern English following the Norman conquest by William the Conqueror in the 11th century that made French the language of the ruling class in England for about 300 years. As a result, many English words related to court, administration, and government have a French origin. These include 'attorney', 'chancellor', 'country' and 'crime'. The influence extended to vocabulary, pronunciation, spelling, and grammar. Loanwords came from two key French sources: the Norman French spoken in England and central French, which later became standard French. French and Latin together had the most substantial influence on the English language. Somewhere between 25% and 70% (Thomason, 2001: 10) of the words that English has borrowed from other languages came from French. Some aspects of English syntax have been influenced by French. For example, while attributive adjectives in French normally occur after the noun, in English they typically come before it. However, adjectives borrowed from French retain their position, at least in specific phrases – for example, 'secretary general' and 'princess royal' (Thomason, 2001; Bielenia-Grajewska, 2009; Roth, 2010; Campano, 2016). Greek loanwords that entered English came through Latin and French. Examples include 'mystery', 'comedy', 'dragon', and 'fantasy'.

2.2.3 Historical overview of Arabic-English language contact

During the Middle Ages, the Arabic and Islamic world came into contact with Europe. It is estimated that around 8,000 words from Arabic have been borrowed into European languages (Khrisat and Mohamad, 2014). Smith (2007) reports that Arabic words first entered the English language through French in medieval times. Hundreds of Arabic words entered English directly, while most came disguised as French, Spanish, or Latin words. Many of the great advances made by Arab scholars and scientists were passed onto Western Europe via the Islamic universities in Spain. Arabic spread across medieval England between the 11th and 13th century. However, the 16th century marks one of the darkest periods in the linguistic history of the Arabic language, especially in Egypt, Syria, and Lebanon. This was the period of the Ottoman occupation, when the language of the ruling class was Turkish, and the Arabic used officially showed a great amount of borrowing from Turkish (Aziz, 1967).

During the Renaissance, English contact with Portuguese and the French increased, which enriched English with Arabic terms. For example, *sukkar* ‘sugar’ and *qutn* ‘cotton’ are Arabic words that entered English through Spanish and Italian. English speakers came into contact with the prestigious intellectual centres of the Arab world, and it was largely through this contact that Arabic words entered the English language. From the 18th to the 20th century, Britain was in direct contact with arabophone areas in Africa and the Middle East. In Africa, Britain colonised Sudan and Egypt. In the Middle East, it colonised Aden, Oman, the Emirates, Qatar, Bahrain, Kuwait, Palestine, Jordan, and Iraq (Othman, et al. 2014). English has borrowed words from Arabic in the fields of medicine, music, religion, philosophy, mathematics, warfare, literature, astronomy, optics, physics, botany, trade, architecture, government, sovereignty, and geography, with the majority coming from fields of science (Daher, 2013, cited in Darwish, 2015). The 18th century also witnessed a great interest in translation, and missions were sent to Europe to bring ideas and inventions to the Arab world.

Alongside this, conscious efforts were being made to save the Arabic language, ridding it of loose style, weak structure, foreign words and expressions, and colloquialisms. A reform movement began in Syria at the end of the 19th century and had a remarkable effect on the development of modern literary Arabic (Aziz, 1967:13).

2.2.4. The influence of English on Arabic grammar

Arabic grammar has also been influenced by English in various ways:

Parts of speech: verbs of all categories (imperfect, transitive, intransitive, forced passive, etc.), nouns, pronouns, adverbs, and particles (including propositions and conjunctions).

Verbs (Aziz, 1967: 79):

- The imperfect: many modern writers underestimate the ability of the imperfect verb to indicate the future, overusing future particles such as سوف *sawfa* and سـ *sa-*, which mean ‘will’, when they are not required because the future signification of the verb is indicated by the context. For example, ستبدأ الأم العمل غدًا *sa-tabda’u al-’umm al-ṣamal ḡadan* ‘The mother will start work tomorrow’. In this case, it would be acceptable to write the sentence without the *sa-* – namely, تبدأ الأم العمل غدًا *tabda’u a-l’umm al-ṣamal ḡadan* ‘The mother starts work tomorrow’. The usage with *sa-* seems to imitate the English ‘will’.

- The transitive: certain verbs that normally take direct objects began to be used with propositions governing the object. The proposition مع *maʿa* ‘with’, for example, which was not traditionally used with Form VI, began to be seen with this, reflecting the influence of the English ‘with’. For example, تبادل *tabādal* ‘exchange’ is a Form VI verb in this sentence, تبادل الهدايا مع اخته *tabādal al-hadāyā maʿa uxtih* ‘He exchanged presents with his sister’. This is more properly expressed by a Form III verb in Arabic, namely بادل *bādal* ‘uxtah al-hadāyā ‘He exchanged with his sister the presents’. تبادل مع *tabādal maʿa* ‘exchange with’ usage comes from the English phrase ‘exchanged with’.

- The intransitive: certain verbs in Standard Arabic traditionally have two objects. What these objects refer to has changed in more recent years. For example, the verb انتقد *intaqad* ‘criticise’ traditionally uses two objects: a ‘prepositional object’ that refers to a person, with the prepositional phrase على *ʿalā*, and a direct object that refers to a thing. For example, in the sentence انتقد الكاتب على كاتبه *intaqad al-kitāb ʿalā kātib-ih* ‘He criticised the writer for his book’ (more literally ‘He criticised the book over its writer’), the direct object is the thing الكتاب ‘the book’, and the ‘prepositional object’ is a person على كاتبه *ʿalā kātib-ih*. In Modern Standard Arabic, we find instead انتقد الكاتب في كتابه *intaqad al-kātib fī kitāb-ih* ‘He criticised the writer for his book’, with the person as the direct object and the thing as a ‘prepositional object’. The modern usage of ‘*intaqad* has thus been influenced by the English ‘criticise’ (ibid: 85).

- The passive: the ‘forced passive’ refers to situations in which the agent is expressed in the Arabic passive, in contrast to the traditional usage in Arabic which chooses not to mention it. This modern usage did not exist in the classical period. This topic is discussed in detail at various points later in this study.

Nouns and adjectives:

Examples of the changes that have occurred with nouns and adjectives include the acceptance of *لا* as a prefix in modern Arabic. The words *لا أخلاقي* *’axlāqī* ‘unethical’ and *لاسلكي* *lāsilkī* ‘wireless’ are examples of this (Abderrahman, 1995: 229). Another is the use of the complex suffix *يات* *-iyyāt* (comprised of the *nisba* suffix *-iyy* and the feminine plural suffix *-āt*) instead of simple singular nouns or genitive forms to describe scholarly disciplines, such as *لسانيات* *lisāniyyāt* ‘linguistics’, compared with the more traditional *نحو* *naḥw* ‘grammar, syntax’, and *علم الصوتيات* *ʿilm al-ṣawtiyyāt* ‘phonetics’, compared *علم الصوتيات* *ʿilm al-ṣawtiyyāt* ‘phonetics’ (ibid).

Pronouns:

First-person pronouns traditionally always came first in Arabic, followed by the second- and then third-person; for example, *أنا وانت* *’anā wa ’ant* ‘I and you’. However, in English, the first person is, at least in polite usage, placed after the second- and third-person pronouns; for example, ‘you and I’. Second-person followed by first-person word-order *وصلنا هنا، أنت وأنا* *waṣalnā hunā, ’anta wa-a’nā* ‘We arrived here, you and me’ can also be found in MSA. In addition, there is a new structure in modern writing, where the noun is mentioned explicitly instead of the third-person personal pronoun, and the pronoun of the first person comes at the end: *ناتمامشي ثلاثتنا ليلي، وسالي، وأنا يوم السبت* *natamaššā talātatnā, laylā, wa-sālī, wa-’anā, yawm al-sabt* ‘Let’s go for a walk the three of us, Layla, Sally, and I, on Saturday’.

Adverbs:

The adverb of place *حول* *ḥawl*, which means ‘around’, was used in traditional Arabic as a preposition (or, more technically, an adverbial accusative annexion-head (ظرف)). The sense of the word has changed in MSA and is now used as a prepositional equivalent of *في* *fī*, which means ‘in’, and *عن* *ʿan*, which means ‘about’. This use has become common in modern journalistic Arabic. The influence of English here is clear. This has come about through the connection of the English ‘about’ to the Arabic *حول* *ḥawl*. For example, ‘I’ve changed my mind about studying’ is translated into Arabic as *غيرت رأيي حول الدراسة* *gayyart ra’yī ḥawl al-dirāsah*.

Particles:

As an example, the Arabic particle ل *li* has not only been prefixed to some adverbs of time without the need for this (for example, زارت لثالث مره *zārat li-tālīṭ marrah* ‘She visited for the third time’), it has also been used as the Arabic equivalent of the English ‘for’: for example, وجدت نفسها لأول مره وحيدة *wajadat nafsaha li’awwal marrah waḥīdah* ‘For the first time, she found herself alone’.

Sentences: including exclamative sentences, negative sentences, interrogative sentences, relative sentences, conditional sentences, concessive sentences, and adversative sentences.

- Exclamative sentences:

For example, modern writers have begun using كم *kam* ‘how much’ as an exclamation, in addition to the assertory *kam* and the predicative *kam*. In modern usage, *kam* is followed by a nominal sentence, e.g. كم هي ذكية! *kam hiya ḍakiyyah* ‘How intelligent she is!’, whereas traditionally it was followed by a singular or plural in the genitive, such as كم ساعة تملك؟ *kam sāʿah tamlik* ‘How many watches do you own?’.

- Negative sentences:

To express a strong negative, Arabic traditionally repeats the negative particle لا *lā* ‘no’ after a preceding negative: for example, لن تغني عنهم أموالهم ولا أولادهم *(surah al-ʿimrān, ayah 10) lan tuḡnī ʿanhum amwālhum walā awlādhum* ‘Never will their wealth or their children avail them’ (translated by Sahih International). Modern writers have begun following and proceeding the negative particle لا *lā* with حتى *ḥattā* ‘even’ to express a strong negative, for example, لا غيم في السماء, حتى ولا غيمه واحدة *la ḡaym fi al-samāʿ, ḥattā walā ḡaymah wāḥidah* ‘No clouds in the sky, not even one cloud’.

- Interrogative sentences:

For example, Arabic traditionally uses the interrogative particles هل *hal* and أ *ʾa* when forming indirect questions. In modern writing, however, the particles are replaced by إذا *idā* and ان *in*. i.e. وسأله إذا كان يعرفه *wa-saʿalhu ʾidā kān yaʿrifuh* ‘And he asked him if he knew him’. The direct influence of translation can be seen here, as the particle *dā* appears to be a translation of the English ‘if’ or ‘whether’.

- Relative sentences:

In the modern use of the conjunctive clause, a conjunctive noun الذي *alladī* connects a definite antecedent to the conjunctive clause and announces a fact known or admitted. The modern use of the conjunctive clause is based on the English pattern. For example, 'I saw my friend, who gave me the book': the Arabic version of this is رأيت صديقي الذي أعطاني الكتاب *ra'ayt ṣadīqī alladī fa'atānī al-kitāb* 'I saw my friend who gave me the book'. The traditional form is رأيت صديقي فأعطاني الكتاب *ra'ayt ṣadīqī fa'aṣṭānī al-kitāb* 'I saw my friend then he gave me the book'.

- Conditional sentences:

Arabic traditionally uses particles, such as إن *in* or لو *law* to form conditional clauses. The particle إن *in* traditionally denotes the possibility that an action will either take place or is likely to happen. It is reported that the particle إن *in* was considered the main and basic conditional particle by Arabic grammarians such as Sībawayhi (Alfraidi, 2017:49). The particle لو *law* indicates a hypothetical situation, implying that what is described will not happen or is not likely to happen. For example, لو كنت أعلم الغيب لاستكثرت من الخير *(surah al-aṣrāf, ayah 188) law kuntu 'aflam al-ḡayb la'stakṭart min al-xayr* 'And if I knew the unseen, I could have acquired much wealth' (translated by Sahih International). Modern writers use لو *law* to denote likely conditions with سوف *sawfa*, often due to the identification of *law* with the English 'if' used in open conditions. Many writers also use the particles لو *law*, ان *in*, and اذا *idā* interchangeably, as correspondents to the English particle 'if', which is different from their traditional usage; for example, لو عملت بجد سوف تنجح *law ṣamilt bijidd sawfa tanjaḥ* 'If you work hard, you will succeed'. Sartori (2011:12) notes that, in MSA, *law* means only potential and has begun to lose its counterfactual characteristic.

Both English and Arabic conditional sentences may involve tense shift in a conditional sentence, so the verb in a conditional sentence does not necessarily refer to the time reference to which a non-conditional sentence usually refers. For example, in English, 'had' normally has a past time reference (e.g., 'I had a car two years ago'), but in a conditional sentence it can refer to a future action (e.g., 'If I had a house, I would not need to rent'). Similarly, in Arabic, جاء *jā'a* 'came' normally has a past time reference: for example, جاءت جودي *jā'at Judy* 'Judy came'. However, in a conditional sentence, it can refer to the future. For example, ان جاءت جودي

سأكون سعيدة ، 'in jā'at Judy, sa 'akūn saḥīdah' 'If Judy comes, I will be happy' Alfraidi, 2017 :27).

- Concessive sentences:

Traditionally, concession in Arabic is expressed by using the particle و *wa* followed by ان 'in (e.g., أنا معه وإن لم يعرفني *ana maḥa-hu wa- 'in lam yaḥrifnī* 'I'm with him even if he doesn't know me'). This use, however, has been replaced by حتى ولو *ḥattā wa-law*: for example, لم يكن يستطيع حتى ولو أراد *lam yakun yastaṭīʿ ḥattā wa-law arād* 'He couldn't even if wanted to'. Traditionally *ḥattā wa-law* is normally used to mean 'so that if'.

- Adversative sentences:

Some modern writers use بالأحرى *bil- 'ahrā*, often preceded by أو 'aw to express greater precision. This use was influenced by the English 'rather': for example, لم تعجبها الحفلة، أو بالأحرى كرهتها *lam taḥjibhā al-ḥaflh, 'aw bil- 'ahrā kirihathā* 'She did not like this party, rather she hated it'.

Subordinate clauses: including subordinate clauses of reason, purpose, direct speech, and time. Influenced by the English language, modern writers often attempt to introduce variations to the fixed word-order of Arabic. A number of scholars claim that Arabic word-order is free of restrictions, but this is not the case.

- Subordinate clause of reason:

Traditionally in Arabic, the main clause precedes the subordinate clause or clause of reason, but this rule is sometimes inverted by modern writers copying the English patterns: for example, لأن الكتاب طويل شعر بالملل *li'ann al-kitāb ṭawīl šaḥar bil-malal* 'Because the book was long, he felt bored'. The main clause here, شعر بالملل *šaḥar bil-malal*, should have preceded the subordinate clause traditionally.

- Subordinate clause of purpose:

As with subordinate clauses of reason, the main clause normally precedes the subordinate clause of purpose, but this rule is inverted by some modern writers copying English patterns: for example, لتتجح في الإختبار ، ذاكرت بجد *litanjah fī al- 'ixtibār, dākarat bijadd* 'To pass the test, she studied hard'. The main clause, ذاكرت بجد *dākart bijadd*, thus follows the subordinate clause.

- Direct speech:

In the example, ماذا هو الغداء؟ سأل بسرعة *māḍā huwa al-ḡadā*? *sa'al bisur'ah* 'What is for lunch? he asked quickly', the words of the speaker precede the main or reporting verb, which is a replication on the English patterns and has come through the direct influence of English translation.

- Subordinate clause of time:

Modern writers often position the subordinate clause to make use of the adverbial accusative genitive head or 'annexion head' بعد *ba'd* before the main clause. However, the idea of the priority of time is traditionally conveyed by using the temporal لما *lammā* to express that the clause depending upon it happened before the main clause.

Idiomatic phrases: including verbal, nominal, and propositional phrases (*ibid*). This refers to all English phrases that have found their way into modern Arabic writing.

- Verbal phrases, such as 'think twice' فكّر مرتين *fakkir marratayn* and 'to bite the dust' عضّ التراب *ṣadd al-turāb*.
- Nominal phrases, such as 'turning-point' نقطة تحول *nuqaṭt taḥawwul* and 'white lies' كذبه بيضاء *kiḍbah bayḍā*.
- Prepositional phrases, such as 'in spite of' على الرغم *aflā al-ruḡm* and 'at least' على الأقل *ṣalā al-'aqall*.

Al Sayadi (2016) argues that the influence of English is more prominent in colloquial speech than in writing or official speech because it is normal for speakers to shift between varieties of Arabic, Arabicised forms, and English forms, without doing so intentionally. In written language, however, writers are more careful, and particularly in translation where written work usually undergoes copy editing and proofreading. Examples of recently borrowed English words that Arab speakers use in everyday life include كمنسل *kansal* 'cancel', تشيك *tišīk* 'check', بريك *brayk* 'break', and يوترن *yūturn* 'u-turn'.

Word formation: this area has been influenced by the English language and will continue to be so for as long as Arab culture remains unproductive. It has been reported that the modern Arabic mind is becoming increasingly similar to the modern Western mind (Abderrahman,

1995: 228), resulting in less frequent use of classical idiomatic models, structural peculiarities, and Semitic thought-habits.

The impact of English on Arabic word formation involves many areas, including the following:

- The adoption of hybrid patterns, such as where the English suffix *-co* is added to a native base. This happens when a foreign element is adopted and used with a native Arabic base – for example, some Arabic companies have added the suffix to their names to produce هادكو ‘Hadco’ and ساكو ‘SACO’.
- The addition of the prefix *lā* to nouns and adjectives.
- The use of the suffix *-iyyāt* to produce names of scholarly disciplines, rather than using simple nouns or genitive phrases, which was previously almost always the practice in Arabic.
- The extensive use of adverbs expressing point of view formed by adding the suffix *-an*, particularly to adjectives ending in *-iyy*. The influence of English translation on Arabic has enriched the use of adverbial derivations, which Arabic traditionally made little use of.
- The addition of hundreds of neologisms in the Arabic lexicon in recent decades. Blending, in particular, has become increasingly common in Arabic, especially in religious and scientific terminology. The majority of blends do not conform to Arabic morphology because they exceed the maximum number of radicals permitted in a word (i.e., five).
- Changes in uses of verbal forms, such as the decreasing use of the verbal form *istafʿala* to express a resultative action.
- Decreasing use of the noun of place (derived from triliteral verbs). As this has no equivalent in English, its use has decreased significantly when English is the source language.

Abderrahman stresses that Arabic translators play a large role in the impact of the English language on the structure of Arabic, as most are more qualified in the source language than in the target language (1995: 228)]. As a result, they unintentionally use English structures in Arabic sentences, gradually naturalising the use of these structures in Arabic until they become the norm. The category of voice is of particular interest in this research. The English passive structure has had a strong influence on similar registers in Arabic and other languages through translation, primarily because of its widespread use in technical and scientific English (Baker 1992:102).

2.3 Passive voice in English and Arabic

Words and their semantic equivalents in other languages do not always have identical meanings; rather, there are almost always subtle differences. Similarly, constructions such as the passive voice can have different meanings cross-linguistically. This makes the passive a difficult notion to define cross-linguistically, and passives in different languages may have different definitions. However, to make the discussion more tangible and comprehensible, a general definition of the passive in the English language is provided here.

According to Nida (1964: 200), voice is a linguistic category that ‘defines the relationship between the participants and the event indicated in the verb’, while Hartmann and Stork, (1976: 252) say that ‘voice’ refers to a verb form or particular syntactic construction indicating a certain relationship between the subject and object of the verb. ‘Voice’ also refers to the relationship between the verb and its subject (Al-Hamash, 1976: 312).

Arabic and English both have two voices: active and passive. Crystal defines the passive as ‘a grammatical analysis of voice, referring to a sentence, clause and verb form where the grammatical subject is typically the recipient or goal of the action denoted by the verb’ (1980: 259). Foley (2007: 418, cited in Neshcheret, 2016: 14) gives a comprehensive definition of the passive: ‘a lexical process of verbal derivation that affects the linking between the levels of argument structure and grammatical functions’. In his opinion, the passive does not change the argument structure of the active: rather, the only difference between the active and passive is the linking between the arguments and the function they fulfil in the clauses.

Interestingly, some linguists believe that, in relation to the evolution of language, the passive construction is more primitive than the active (Fillmore, 1968). For example, Māori, which is a split-ergative language (see immediately below), has an extraordinarily high frequency of passive constructions (Allan, 2009: 63). When a language exhibits certain patterns for dealing with the arguments of the verb, this is called ‘ergativity’. Some 25% of the world’s languages show ergative tendencies, though no language is fully ergative. Ergative languages are languages with ergativity, in effect:

a system of marking grammatical relations in which intransitive subjects pattern together with transitive objects (“absolute”), and differently from transitive subjects (“ergatives”). This ergative alignment pattern may be manifest, for

example, in terms of morphological case marking on nominals, or patterns of agreement on the predicate. This contrasts with the more commonly discussed nominative-accusative-type alignment, in which both transitive and intransitive subjects pattern alike (“nominative”), and differently from transitive objects (Coon and Adar, 2013).

Split-ergative languages are languages that ‘show ergative in some portion of the grammar but nominative-accusative patterning in another’ (Coon and Adar, 2013). It has been claimed that languages with the passive voice exceed in number those without (Neshcheret, 2016: 1). However, research confirms that the passive structure is not found in all languages (Plecháčková, 2007), and – in contrast to the above – it is actually more common for languages to not have a passive voice. There are arguments that certain languages – especially those belonging to the Austronesian language family and Amerindian languages, as well as Hungarian – do not have passives.

Siewierska (2005) found that 44% of her sample of 373 languages had a passive construction. In addition, Haspelmath (1990) found that 31 languages out of a more representative sample of 80 had passive constructions, with the main function of the passive differing between the languages. It is difficult to extend the passive concept to languages other than English, particularly when their general structure differs markedly (Allan, 2009: 62). Though the linguistic category of voice exists in many languages, there are many structural differences between individual languages that result in different rules for the use of the active and passive voice.

Halliday (1970) identifies three meta-functions of language in his ‘systematic functional linguistic’: the ideational, the interpersonal, and textual. He argues that the choice to use the passive – rather than the active – in any language relates to the textual function of the language. The textual function is about the verbal world and the flow of information in a text. It is realised in information structure and cohesion; and through it, the ideational and interpersonal meanings are realised (Bilal, 2012). Passive markers can result in similarities between otherwise different structures because they can be used with sentences that do not necessarily have a passive construction and serve different purposes, such as indicating a reflexive, reciprocal, or spontaneous action or involving an impersonal or potential meaning (Neshcheret, 2016: 20).

Lyons (1968) reports two differences between the active and passive in English (and in a number of other languages): (1) in the active sentence, the object becomes the subject of the corresponding passive sentence; and (2) the subject of the active sentence is the affected participant and not necessarily expressed in the passive sentence (Baker, 1992; Bakir, 1994). In addition, Wright (1996: 50) believes that the subject of the active voice is always an agent (person or an object) whose actions may or may not affect the object, while the subject of the passive is either the object of the active (personal passive) or the abstract idea of the act (impersonal passive).

The differences between the Arabic and English systems concern not only the form of the passive, but also include its function and stylistic value. Accordingly, there are differences between the two languages in their respective frequency of use of the passive voice. It can be concluded that, while the passive voice exists in both Arabic and English, it has a different significance and fulfils different roles in the two languages. The following sections provide simple comparisons of the English and Arabic passive voice, showing the differences between the active and passive voice in the two languages, the structure of the English and Arabic passives, the uses of the passive, the passivisation process, the passivezability of verbs, and the agent. Further important analyses of the passive which go beyond the issues discussed in this section include Chomsky (1957), Halliday (1970), Khafaji (1996) and Alhussain (2016).

2.3.1 Differences between passive and active in Arabic

The first difference to note is in the names of the active and passive forms in Arabic. The active structure is called – among many names – معروف *maʿrūf* ‘known’ because the subject is known. On the other hand, the passive is called مجهول *majhūl* ‘unknown’ because the subject is unknown (Ryding, 2005; Ahmed, 2008: 82).

Saad (1982) reports that many early Arab grammarians believed the passive structure to be syntactically derived from a corresponding active structure (Abu Absi, 1972; Wright, 1996: 63; Alhussain, 2016). However, the Kufan School believed that the passive form was not transformed from its active counterpart at all (Nofal, 2012: 43). Moreover, they did not explain why Arabic has some verbs with passive forms and no corresponding active forms, such as جُنَّ *junna* ‘He was possessed’ and حُمَّ *humma* ‘He sickened with fever’.

Morphologically, the differences between active and passive sentences in Arabic are evident in the vowels. Bakir (1994) and Schulz, et al. (2000) confirm that passivisation in Arabic is identified by changing the vowel of the active sentence. For example, the Arabic verb أَكَلَتْ *'akalat* 'She ate' has the corresponding passive أُكِلَتْ *'ukilat* 'It was eaten'. Passive forms thus differ from the active by their different vocalisations. One characteristic that most passive forms share is the vowel *dammah* /u/ on the first radical (Abu-Chacra, 2007).

2.3.2 Differences between passive and active in English

Quirk, et al. (1972:654) outline five kinds of 'voice constraints' between the active and passive in English: verb, object, agent, meaning, and frequency of use.

2.3.2.1 Verb constraints

Verbs occurring in the passive have more restrictions than those in the active. For example, transitive verbs, intransitive verbs (to be discussed later), and prepositional verbs can all occur in the passive but not as freely as in the active. Additionally, with some verbs, only the passive is possible.

2.3.2.2 Object constraints

Both nominal and clausal objects follow verbs. Co-referentiality between subject and nominal object blocks the passive transformation (formation). For clausal objects, only those consisting of a finite clause have passive analogues.

2.3.2.3 Agent constraints

The agent phrase is optional in the passive, unlike in the active, where the agent is the subject. Biber, et al. (2002) note that unlike the active voice, the passive reduces the importance of the agent of the action and allows the receiver of the action to become the subject of the sentence.

2.3.2.4 Meaning constraints

A shift of voice may cause a shift of meaning, especially when the verb phrase includes auxiliaries that have more than one meaning, such as 'will', 'shall', and 'can'. A passive sentence such as 'Layla can't be taught' has a different meaning to the active 'Judy can't teach Layla'. In the first of these examples, Layla is 'unable to learn', while in the second 'Judy is

unable to teach Layla'. The first example suggests a handicap or cognitive issue that prevents Layla from learning while the second example implies that Judy lacks the ability to teach Layla.

2.3.2.5 Frequency of use constraints

As mentioned, the active is more frequently used than the passive; and while the passive is less common overall, it has been found to be ten times more common in certain texts (i.e. scientific texts) than in others (i.e. literary texts). Quirk, et al. (1972) note that it is the difference between informative and imaginative prose – and not a difference in subject matter between spoken and written English – that is the key feature for determining passive voice frequency. Biber, et al. (2002) argue that the frequency of the passive in English varies across registers. Passive is more common in academic prose, where it accounts for approximately 25% of all finite verbs. The passive is also common in the news, where it accounts for some 15% of all finite verbs.

2.3.2.6 Other differences between active and passive in English

Scholars have also discussed various other differences. In broad terms, in the active structure, the subject is the agent responsible for the action and/or what people or things are doing; while in the passive structure, the focus is on the person or thing that is affected by the action. Thus, the subject is the affected entity and the agent may or may not be specified (Willis, 1991: 170; Baker 1992: 102; Eastwood, 1994: 132). In addition, the subject of the passive does not always correspond to the object of the verb in the active (Roberts, 1967: 246).

According to one study, there seems to be no significant difference in terms of cognitive recall between active and passive voice (Quirk, et al. 1972: 653). One study examined active and passive voice structures in text and also concluded that recall of meaning is equivalent for both active and passive structures (Rhodes, 1997). However, another study reported that compared with passive, that active sentences had a better recall (Blount and Johnson, 1973). Another study found that the verb voice affects reader performance (Isakson and Spyridakis, 2003). In isolated sentences and oral conditions, the active voice often better facilitates recall than the passive voice (Coleman, 1965).

2.3.3 Structure of the passive in Arabic

Arabic has a basic verb-subject-object (VSO) word order. Agameya (2008: 558) defines the passive in Arabic as ‘a sentence structure in which the semantic subject or agent, i.e. the

performer of or person/thing responsible for an action, is suppressed and, in fact, cannot be mentioned'. Unlike other Semitic languages, Arabic has kept its morphologically based passive structure without change for centuries, primarily because of the Quran (Mohammad, 2006:25). The passive is highly productive (Horvath and Siloni 2005). The Arabic passive is generally agentless; and if the agent is known, Arabic prefers an active structure (Rosenhouse, 1988:101). To illustrate, the total number of verbs used in the Holy Quran is 18,181, only 957 of which are in the passive form (Khalil, 1989, cited in Nofal, 2011:149). Moreover, in colloquial Arabic, the passive is less common than it is in Standard Arabic (Mohammad, 2006; Al-Samarrai, 1986:97, cited in Alsuhaibani, 2012). Further studies on the structure of the passive in Arabic include Cantarino (1975), Rosenhouse (1988), Khalil (1993), and Wright (1996).

2.3.4 Structure of the passive in English

Though there is no consensus among grammarians as to what constitutes the English passive (Svartvik 1966:3), there is agreement on the basic patterns. Generally, the passive consists of a form of the verb 'to be' with the past participle form of another verb (Lewis, 1986: 131; Wardhaugh, 1995a; Azar, 2002). However, not all passive structures involve 'to be'. It is also possible to use the auxiliary 'to get' (instead of 'to be') with the past participle, but this is rare, avoided in formal style, almost exclusively used in conversational English (Willis, 1991; Eastwood, 1994: 136; Biber, et al. 2002: 174) and restricted to constructions without an expressed animate agent (Quirk, et al. 1972:653). Other copular verbs that can be used in the passive include 'become', 'stand', 'look' and some passives – termed 'bare passives' – even involve no auxiliary verb at all (Huddleston and Pullum, 2002). Lexical verbs are also used in the passive voice. For example, 'interested' in English is technically a passive, but it is very often used more as a simple adjective than as a true passive form, such as '[is] shown'. Thus, it is possible grammatically to say, 'I am very interested in history' (where 'interested' is essentially an adjective), but not, *'I was very shown this by my friend'.

English makes abundant use of the passive form – especially in scientific texts (Rosenhouse, 1988: 92), where actions may be described impersonally without indicating who carried them out (Palmer, 1965). Other typical contexts for the passive include descriptions of social, scientific, industrial, historical processes and official rules and procedures (Eastwood, 1994: 133). In contrast, the passive form is rare in conversations, primarily because of its formal, planned, highly structured (Thanh, 2015), and impersonal nature (Palmer, 1965), and because

conversations are generally concerned with the actions and experiences of people (Biber, et al. 2002). A study by Ghasemi and Jahromi (2014), exploring the differences between written and spoken language, found that the spoken data samples did not show a higher frequency of passive constructions compared to written language.

As per Bakir (1994), passivisation in English has a basic SVO word order and is a syntactic category, as English word order is governed by grammatical principles that define the relationship between the process (verb) and the participants in the process (including agent and patient). Many scholars believe that the passive construction derives from the active (Chomsky, 1957; Svartvik, 1966). Other scholars, however, take the view that active and passive structures are simply different (Palmer, 1965; Beedham, 1982; Lewis, 1986). Wardhaugh (1995b) notes that some active constructions do not have corresponding passive construction, and some passives do not have active counterparts (e.g. ‘I was born’).

2.3.5 Uses of the passive in Arabic

The passive in Arabic is often considered impersonal because it is used when the doer of the action is not specified (Thatcher, et al. 1942; Abu-Chacra, 2007). According to Cantarino (1975: 52), the passive is used in Arabic ‘to place a greater emphasis upon the action and its object’. Arab grammarians also talk about the rhetorical functions of the passive. These include brevity and concision (Nofal, 2013:894). There are traditionally said to be four situations in which passive is used in Arabic (Wright, 1996):

- when God is the author (agent) of the act – this is found in the Holy Quran
- when the author (agent) is not known for sure
- when the speaker or writer does not wish to name the author (agent)
- when attention is to be directed towards the person affected by the act (patient), rather than the doer (agent)

Catford, et al. (1974) also add another situation to the above list: when there is a need to emphasise the object.

2.3.6 Uses of the passive in English

The passive in English is generally used in the following situations (Eastwood, 1994: 133; Biber, et al. 2002; Azar, 2002):

- when the agent is unknown, unimportant, or obvious from the context

- when the agent is not relevant to the message
- when the action is more important than the agent
- when the writer/speaker wants to put emphasis on the patient
- when the writer/speaker wants to make a polite or formal statement
- to keep the focus on the same subject throughout several paragraphs
- when the subject of the active sentence is ‘somebody’, ‘people’, ‘they’, ‘you’, and so on

2.3.7 The passivisation process in Arabic

According to early Arab grammarians, the process of passivisation generally includes the elimination of the subject of the verb in an active construction, changing the verb into the passive form, and moving the object into a subject position (Saad, 1982). The following grammatical categories may become subjects of passive verbs (ibid):

- Objects – e.g., ضربت نور سالي *darabat nūr sālī* ‘Noor hit Sally’, which passivises as ضربت سالي *ḍuribat sālī* ‘Sally was hit’.
- The first or second objects of some verbs that may take two accusative objects – e.g., أعطيت ليلي كتابًا *aḥṭayt laylā kitābān* ‘I gave Layla a book’, which passivises as أعطيت ليلي كتابًا *uḥṭiyat laylā kitābān* ‘Layla was given a book’, أعطى ليلي كتاب *uḥṭiy kitāb li laylā* ‘A book was given [to] Layla’.
- Under certain conditions, accusatives of time, place, duration or distance – e.g., سارت ليلي *sārat laylā* ‘Layla walked two miles’, which passivises as سيرا ميلين *sīra mīlayn* ‘Two miles were walked’.
- Cognate accusative when modified or specified – e.g., غنّت ليلي اغنية *ḡannat laylā uḡniyatun* ‘Layla sang a song’, which passivises as غُنّيت اغنية *ḡunniyat uḡniyatun* ‘A song was sung’.
- Prepositional phrases – e.g., نامت ليلي في البيت *nāmat laylā fi al-bayti* ‘Layla slept in the house’, which passivises as نيم في البيت *nīmā fi al-bayti* ‘It was slept in the house’.

Another thorny issue often brought up is the formation of the passive. Lyons (1968), Horvath and Siloni (2005), Laks (2013), Alexiadou (2013) and Alhussain (2016) all claim that the formation of passives is free of constraints and there are no morphophonological, syntactic or semantic constraints that block passivisation. Therefore, a passive can be formed from any transitive verb. However, there are in fact some constraints that may affect the formation of passives. Holes (2004) notes that Arabic word-order is flexible to a degree. However, Ramsay

and Mansour (2006: 452) explain that, although Arabic word-order is comparatively free, not all orders are possible, and some only occur in very restricted circumstances. Keenan (1985: 251) also confirms that the passive in Modern Standard Arabic is strictly morphologically constrained. In addition, if the subject of a sentence occurs before the verb, the agreement constraints are tighter than if the subject appears initially in the sentence. In general, the basic order of an Arabic sentence with a transitive main verb is, as already noted, VSO. While other orders are possible – such as SVO, SOV, and OVS – these only occur in specific contexts with specific marked communicative effects, orders such as SOV and OVS being particularly marked.

2.3.8 The passivisation process in English

When a sentence is transformed from the active to the passive, the object of the active voice becomes the subject of the passive voice sentence (Roberts, 1967); the main verb of the active voice changes into the passive voice, using a form of the auxiliary verb ‘to be’ (as noted in section 2.3.4), and is followed by the past participle of the main verb; and the subject of the active voice becomes the agent of the passive sentence, if retained (Willis, 1991:170; Biber, et al. 2002:166). Generally, the past participle is made by adding ‘-ed’ to the infinitive, while irregular verbs have other past participle forms. If the sentence is agentive, the subject is placed after the past participle and preceded by the preposition and agentive particle ‘by’ (Palmer, 1965; Saad, 1982; Lewis, 1986; Alsuhaibani, 2012). Generally, the preposition ‘by’ plus a noun(-phrase) or pronoun are used to refer to the agent. The agent refers to the doer of the action that is taking place (Saad, 1982). It is occasionally possible to use a passive in English when the agent deviates from prototypical agency (i.e. when the agent is not the doer of the action that is taking place) – for example, ‘tall willow-trees overhang the river’ which passivises as ‘The river is overhung by tall willow-trees’.

2.3.9 Passivisability of verbs in Arabic and transitivity

In Arabic, the passive can be formed of perfect and imperfect verbs. Every verb in Arabic has a lexical root that consists of a set of consonants in a specific order. The number of consonants in the root varies from two to five, with three being the most common. The number of roots in Arabic has been estimated at between 5,000 and 6,500. Most Arabic words consist of two morphemes: a root and a pattern, neither of which can be used in isolation (Ryding, 2005). While Schulz, et al. (2000) report 10 forms of the verb in common use (out of the 15 Arabic

verb forms), Holes (2004: 100) argues that only nine verbal forms are in common use and can theoretically be applied to any root. Each type changes during the passivisation process (Saad, 1982; Alsuhaibani, 2012).

		Perfect Active		Perfect Passive	
1.	FORM I	FAM(A/U/I) LA	فَعَلَ	FUMILA	فُعِلَ
2.	FORM II	FAMMALA	فَعَّلَ	FUMMILA	فُعِّلَ
3.	FORM III	FĀMALA	فَاعَلَ	FŪMILA	فُوِعِلَ
4.	FORM IV	?AFMALA	أَفَعَلَ	?UFMILA	أُفُعِلَ
5.	FORM V	TAFAMMALA	تَفَعَّلَ	TUFUMMILA	تُفُعِّلَ
6.	FORM VI	TUFĀMALA	تَفَاعَلَ	TUFŪMILA	تُفُوِعِلَ
7.	FORM VII	(?I)NFAMALA	انْفَعَلَ	(?U)NFUMILA	انْفُعِلَ
8.	FORM VIII	(?I)FTAMALA	اِفْتَعَلَ	(?U)FTUMILA	اِفْتُعِلَ
9.	FORM IX	(?I)FMALLA	اِفْعَلَ	(?U)FMULLA	
10.	FORM X	(?I)STAFMALA	اسْتَفَعَلَ	(?U)STUFMILA	اُسْتُفُعِلَ

Table 2.1 presents the top ten most-common perfective verb derivation forms along with their passive forms, according to Saad (1982: 7) and Schulz, et al. (2000: 248). The letters F, M and L refer to the first, middle or last root consonant, respectively. In the Arabic column the ‘dummy’ root letters for the فعل verb ‘to do’ are used, in accordance with traditional Arabic grammatical practice.

Simply put, in the passivisation process, we replace the active verb with the corresponding passive form of the verb. The perfect verb كَسَّرَ *takassar* ‘to break’ from the Form II verb (FaMMaLa) passivises as كُسِّرَ *kussira* ‘be broken’ (FuMMiLa). For example, the sentence عاملت ليلي نوره باحترام *ʕāmalat laylā nūrā biḥtirām* ‘Layla treated Nora with respect’, passivises as عُوِّمِلت نوره باحترام *ʕūmilat nūrā biḥtirām* ‘Nora was treated with respect’.

To take another example, in Form VIII ((?i)FtaMaLa), the verb اقترح *iqtarāḥa* ‘to suggest’ passivises as اقْتُرِحَ *ūqtūrīḥa* ‘be suggested’ ((?u)FtuMiLa). For example, the sentence اقترحت ليلي عبور النهر *iqtarahat laylā ʕubūr al-nahr* ‘Layla suggested crossing the river’ passivises as اقْتُرِحَ عبور النهر *ūqtūrīḥa ʕubūr al-nahr* ‘Crossing the river was suggested’.

		Imperfect Active		Imperfect Passive	
1.	FORM I	YAFM(A/U/I) LU	يُفَعِّلُ	YUFMALU	يُفَعَّلُ
2.	FORM II	YUFAMMILU	يُفَعِّلُ	YUFAMMALU	يُفَعَّلُ
3.	FORM III	YUFĀMILU	يُفَاعِلُ	YUFĀMALU	يُفَاعَلُ
4.	FORM IV	YUFMILU	يُفَعِّلُ	YUFMALU	يُفَعَّلُ
5.	FORM V	YATAFAMMALU	يُتَفَعَّلُ	YUTAFAMMALU	يُتَفَعَّلُ
6.	FORM VI	YATAFĀMALU	يُتَفَاعِلُ	YUTAFĀMALU	يُتَفَاعَلُ
7.	FORM VII	YANFAMILU	يُنْفَعِّلُ	YUNFAMALU	يُنْفَعَّلُ
8.	FORM VIII	YAFTAMILU	يُفْتَعِّلُ	YUFTAMALU	يُفْتَعَّلُ
9.	FORM IX	YAFMALLU	يُفَعِّلُ	YUFMALLU	يُفَعَّلُ
10.	FORM X	YASTAFMILU	يُسْتَفَعِّلُ	YUSTAFMALU	يُسْتَفَعَّلُ

Table 2.2 presents the ten most common imperfective verb derivation forms along with their passive forms according to Saad (1982: 7) and Schulz, et al. (2000). To clarify, in Form III (yuFāMiLu) the verb يُحَاصِرُ *yuḥāṣiru* ‘to surround’ passivises as يُحَاصَرُ *yuḥāṣāru* (yuFāMaLu). For example, the sentence تُحَاصِرُ لَيْلَى عَدُوَهَا *tuhāṣiru laylā ʿadūwahā* ‘Layla surrounds her enemy’, passivises as العَدُوُّ يُحَاصَرُ *yuḥāṣāru al-ʿadū* ‘The enemy is surrounded’.

Form I is the base form. Morphologically, it is the simplest form and referred to in Arabic as the الفعل المجرد *al-fiʿl al-mujarrad* ‘stripped verb’. The remaining forms (II-X) are derived from Form I and are thus more complex and referred to as الفعل المزيّد *al-faʿl al-mazīd* the ‘augmented verb’ (Schulz, et al. 2000; Ryding, 2005: 434). Hypothetically, it is possible for each verb root to have all forms, meaning any given verb could have 10 different verb forms. In reality, however, a verb typically occurs only in 4-5 forms (Schulz, et al. 2000).

Some derived forms of the verb – particularly V, VII, VIII, and IX – may signify a passive or passive-like meaning, but this is not always the case. It is important to learn derivational verbs as separate lexical items to know whether their meaning is equivalent to the passive in English (*ibid*).

Wright (1996: 63) follows a simple approach for passive verbs. He divides verbs into their two tense categories: perfect and imperfect. For perfect verbs, the passive is traditionally understood to be formed by placing a ضمه *damma* or short /u/ (ُ) on the first letter of the verb and a كسرة *kasra* or short /i/ (ِ) on the letter before last (see Table 2.1). For example, فتحت ليلي

الباب *fataḥat laylā al-bāb* 'Layla opened the door' becomes الباب فُتِحَ *futiḥa al-bāb* 'The door was opened'.

For imperfect verbs, the passive is formed by placing a ضمه *damma* or short /u/ (ُ) on the first letter of the verb and a فتحة *fatha* or short /a/ (َ) on the letter before last (see Table 2.2). For example, تقرأ ليلى الكتاب *taqra 'u laylā al-kitāb* 'Layla reads the book' becomes يُقرأ الكتاب *yūqra 'u al-kitāb* 'The book is read'. His approach, however, does not account for derived verbs or the different forms of the Arabic verb. This method focuses only on the perfect and imperfect of Form I verbs and does not apply to the other verb forms II-X. Similarly, other scholars highlight that the verb becomes passive through either changes to the vowels in the stem and tense prefix (Haywood and Nahmad 1965) or the insertion of a prefix (Agameya, 2008), such as (*i*)n- (giving Form VII), though this is often referred to as a medio-passive.

Ryding's (2005: 657) takes a more detailed approach. She divides passives into two categories: inflectional (or internal) and derivational. Each type includes both perfect and imperfect verbs. The inflectional type (this includes the basic form of the verb or Form I; see Tables 2.1-2.2) involves 'a shift of vowel pattern within the verb': for example, أكل *'akala* 'he ate' passivises as أُكِلَ *'ukila* 'it was eaten'. The shift includes changing the vowel sequence of the verb. The inflectional passive can occur in the perfect tense where the vowel sequence is /-u -i-/. All vowels preceding the stem vowel are /u/, whereas the stem vowel itself is /i/. In the imperfect tense, the vowel sequence of the verb is /u/ on the subject marker, followed by /a/ within the verb stem. Her inflectional approach follows that of Wright (1996), mentioned above.

A derivational passive involves the use of a derived verb to convey a passive-type meaning. This may involve any verb form other than Form I, but is typically found in Forms V, VII and VIII (see Tables 2.1-2.2). In addition to the passive, derivational verbs of this type are also used to convey a reflexive or medio-passive sense of the action involved in the verb.

2.3.9.1 Medio-passive passive in Arabic

As noted above, Arabic also has a 'middle voice' or 'medio-passive' form that indicates 'a passive or passive-like meaning'. This can be found in the verb Forms V, VII and VIII. For example, تكسَّرَ *takassara* 'to break', may be reflexive. It can also be resultative, showing the result of the Form II verb – for example, كسرتُه فتكسر *kassartuhu fa-takassara* 'I broke it, so it

broke’. Another example is the Form VII verb انْفَتَحَ *infataḥ* ‘to open’, while the Form VIII اِرْتَفَعَ *irtafaʿa* ‘to rise’ (lexical root is رَفَعَ), may be reflexive, or resultative; in the case of the latter, it expresses the consequences of a Form I verb (Ryding, 2005:530/555). One reason for the existence of the medio-passive in Form VIII, as Ryding (2005:669) reports, may be the phonological restriction that Form VII has with lexical roots starting with ء *hamza*, و *wāw*, ي *yā*, ر *rā*, ل *lām*, and ن *nūn*. For those roots, Form VIII or Form V takes over the medio-passive role. A Form VII verb, (i)nfataha – in, for example, فَتَحْتُ الْبَابَ فَانْفَتَحَ *fataḥtu al-bāba fa-nfataḥa* ‘I opened the door, so it opened’ – can also involve what is known in Arabic as مَطَاوَعَةٌ *muṭāwaʿa* ‘conformity’ because it reflects a resultative state of the object. The derived forms of the verb can occur in the perfect and imperfect tenses. However, Forms V, VI, VII, VIII, and IX occur less frequently in the inflectional passive in the imperfect tense because they are intransitive or have passive or medio-passive meaning.

2.3.9.2 Transitivity

Generally, there are two major classes of verbs in Arabic: transitive verbs, which take direct objects (the number of objects can vary from one to three) and may undergo passivisation, and intransitive verbs, which lack objects and cannot be passivised. Arab grammarians refer to transitive verbs as أفعال متعدية *affāl mutaʿdiyyah* ‘exceeding/extending verbs’ because the action of the verb extends beyond the agent through to the object and as أفعال غير متعدية *affāl ġayr mutaʿdiyyah* ‘non-exceeding/non-extending verbs’ because the action of the verb does not extend beyond the agent (Ryding, 2005: 658). Almost all transitive verbal forms, both primitive and derivative (with the exception of the imperative verb because it cannot give a complete meaning without its actor [Alsuhaibani, 2012]), have two voices: the active and the passive (Wright, 1996). Some studies have even gone further, claiming that the passive can be formed from any transitive verb – and from transitive verbs only (Quirk, et al. 1972; Willis, 1991: 144; Wardhaugh, 1995a: 119; Azar, 2002; Ryding, 2005; Agameya, 2008; Alsuhaibani, 2012; Laks, 2013; Alhussain, 2016). This traditional approach to transitivity and passivisation is not recommended, however, as it fails to account for the following (Saad, 1982):

- The active and passive constructions are not synonymous. The passive transformation does not preserve meaning because the agent is explicitly specified in the active structure and omitted in the passive structure, as Arabic passives are, traditionally, agentless.

- Some transitive verbs that take direct objects do not passivise. For example, *جائني jā'anī* 'He came to me' cannot be passivised as *جُئْتُ ju'itu* 'Was come to me'. The same applies to *وصلتها رسالة waṣalatha risālatun* 'A letter reached her'.
- Some intransitive verbs that do not take a direct object may passivise. These are called 'impersonal passives' and the passive forms take the third-person singular. For example, *نام nāma* 'He slept' can be rendered as *نِيمَ nīma* 'Was slept'. *نام نوح في الدار nāma nūh fi al-dāri* 'Noah slept in the house' thus passivises as *نِيمَ في الدار nīma fi al-dāri* 'Was slept in the house'. Moreover, it is reported that intransitive verbs can passivise when they are followed by a verbal noun مصدر *masdar*, accusative or preposition. For example, *سُهِرَ سَهْرٌ suhir sahar ṭawīl* 'A long night was spent', and *صِيَمَ رمضانَ ṣīmā ramadān* 'Ramadan was fasted'.
- Certain passive verbs do not have corresponding active verbs. For example, *جُنَّ junna* 'He was possessed/became mad' *جُنَّ نوح junna nūh* 'Noah was possessed' and *دُهِّلُوا duhilū* 'They were surprised'.

Saad therefore proposes two verb classes: passivisable and nonpassivisable verbs (1982, 2).

2.3.9.2.1 Nonpassivizable verbs

Nonpassivisable verbs include the following:

- One-place verbs (*ibid.*, 1982:39), which only require one noun or noun phrase to have a complete meaning; for example, *جاءت ليلى ja'at laylā* 'Layla came'. The verb *جاءت ja'at* 'came' here only requires one noun *laylā* (a subject) to have a complete meaning. The verb stands alone and gives a full meaning with the use of only one noun phrase and does not require another noun or noun phrase. Such verbs are nonpassivizable because in order for the verb to undergo the passivisation transformation, it typically needs two nouns or noun phrases. Two-place verbs are verbs which require two nouns or noun phrases (a subject and a direct object) to have a full meaning. Such verbs undergo the passivisation process.
- Defective verbs and the verb *كان kān* 'to be'. Such verbs require more than one noun or noun phrase to produce a complete sentence. They are 'two-place verbs' (see above) and need a subject and a predicate. For example, *كانت ليلى طفلة kānat laylā ṭiflah* 'Layla was a child'.

- الكلافة *kallaḥa*-type ‘to cost’ verbs, which include verbs such as *kallaḥ*, دام *dām* ‘keep’, وزن *wazan* ‘weigh’, and علا *ʕalā* ‘get higher’. Such verbs are ‘two-place verbs’; for example, كلف هذا القلم الكثير *kallaḥa hādā al-qalamu al-kaṭīr* ‘This pen cost a lot’.
- التشبيه *tašbīh*-type ‘to resemble’ verbs. These include verbs such as أشبه *ašbaha* ‘to resemble’ and عادل *ʕādala* ‘to be equal’, which are also ‘two-place verbs’. For example, سالي ليلي ليلي سالي *tušbiḥu laylā sālī* ‘Layla resembles Sally’. Though these verbs take a nominative subject and an accusative object, they do not passivise.

2.3.9.2.2 Passivizable verbs

Passivisable verbs include the following (ibid:49):

- Implemental verbs. These are divided into three types. The first is those that require an implement, which may be either alienable or inalienable depending on the individual verb. For example, ضرب *ḍarab* ‘to hit’ in ضربت سالي ليلي بيدها *ḍarabat sālī laylā bi yadihā* ‘Sally hit Layla with her hand’ or ضربت سالي ليلي بالباب *ḍarabat sālī laylā bi al-bābi* ‘Sally hit Layla with the door’. ‘Inalienable’ means something that is a standard part of a human being, whereas ‘alienable’ refers to an inanimate object, such as ‘a door’. The second type of implemental verb is one which requires inalienable implements. For example, the verb رفس *rafasa* ‘to kick’ requires the inalienable implement قدم *qadam* ‘foot’. The third type is those that require an alienable implement. Such verbs are derived from nouns that indicate the implement. For example, the verbs قطع *qaṭaʕa* ‘to cut’ and طعن *ṭaʕana* ‘to stab’ denote that the implement is a sharp instrument, as in قطعت ليلي الكعكة *qaṭaʕat laylā al-kaʕka* ‘Layla cut the cake’.
- Physical perception verbs. These include the five commonly accepted human sensory modalities: sight, hearing, taste, smell and touch, all of which are ‘two-place verbs’ and can passivise: for example, ليلي تسمع أمها *laylā tasmaʕu ummahā* ‘Layla hears her mother’.
- Reciprocal verbs.
- Resultative verbs. The activity of the verb in this type results in the creation of an entity that only exists after the completion of the verb activity. An example is بنوا البيت *banaw al-baita* ‘They built the house’.
- Emotive and cognitive verbs.
- Verbs of transforming. These can be ‘three-place verbs’ or ‘two-place verbs’. They can take a subject and two objects, the most common verb being صيّر *ṣayyara* ‘to make’.

For examples, صَيَّرَ الخلاط الفاكهة عصيراً *ṣayyara al-xallāṭu al-fākihata ʿaṣīran* ‘The blender made the fruit into a juice’. This verb type is not very common in Modern Standard Arabic.

- Verbs of acquiring. For example, تَبَنَّتْ طفلاً *tabannat ṭiflan* ‘She adopted a child’. Such verbs indicate an action performed by the agent in their own interest.
- Causative verbs. They indicate causation, for example, أَذَابَتْ لَيْلَى الشَّمْعَةَ *adābat laylā al-šamʿata* ‘Layla melted the candle’.
- Verbs of certainty and doubt. Like verbs of transforming, these verbs take a subject and two accusatives.
- Miscellaneous other verbs.

More recent works do not acknowledge or agree with the analyses in this section. Rather, most recent studies focus on the transitive versus intransitive-based passive, which has proved problematic. For example, according to Agameya (2008) and Alhussain (2016: 22) passivisation is linked to transitive verbs. The latter claims that MSA does not have syntactic constraints and a passive verb can be formed by a vowel change from any transitive verb.

Various observations that address the passive construction of some verbal groups lack sufficient evidence for passivisation of intransitive verbs and, in particular, the evolving constraints upon this. Thus, there is a need for more literature on the passivisation of intransitive verbs.

2.3.10 Passivisability of verbs in English and transitivity

The passive is often described as involving two operations (Bhatt and Finch, 2001; Abdulkadir and Ahmed, 2013):

- Deletion/suppression of the agent/external argument – when the agent is removed from the prominent subject position and demoted to a less salient role in the syntactic structure.
- Promotion of the highest internal argument – when the patient is promoted from object position to subject.

Thus, for the sentence to be passivised, it must have an agent or external argument that can be suppressed. The verb must also have an internal argument that can be promoted to a subject position. This is why ‘laugh’ cannot be passivized: ‘Layla laughed’ cannot be rendered as ‘Was laughed by Layla’ (Bhatt and Finch, 2001).

2.3.10.1 Transitivity

Traditionally, transitivity divides verbs into two categories, depending on whether they occur with a nominal complement. They are ‘transitive’ if they have nominal complements and ‘intransitive’ if they do not. Some verbs can accept both, depending on the construction. The voice and transitivity systems are interlinked and have a strong relationship. They both belong to the verbal group system and to the clause system. Verbs in English can be divided into transitive or intransitive.

Eastwood (1994) argues that there are two kinds of verbs that cannot be passivised: intransitive verbs and some state verbs (e.g. ‘lack’, ‘resemble’, ‘belong’). Like their Arabic counterparts, it is generally believed that English transitive verbs passivise and intransitive verbs do not (Quirk, et al. 1972; Willis, 1991:144; Alsuhaibani, 2012). Dayley (1983: 112, cited in Neshcheret, 2016: 12) goes further, limiting passivization to transitive verbs. He defines ‘voice’ as a grammatical category that applies to transitive verbs. However, Quirk, et al. (1972:654) show that there are many exceptions to the general rule that transitive verbs can be either active or passive. Kerl (1861: 168) stresses that intransitive verbs passivise when their meaning is followed by a preposition or other words. He adds that such verbs may become compound passive verbs. An example is ‘She sat on the grass’, which passivises as ‘The grass was sat on’. Willis (1991: 144) adds that some intransitive verbs can be used with an object that is closely related to the verb: ‘die’, ‘laugh’, ‘live’, ‘smile’, and ‘dance’ (e.g. ‘She lived a good life’). On the other hand, Palmer (1965) explains that some transitive verbs never – or only rarely occur in the passive. Thus, although ‘resemble’, ‘lack’, and ‘have’ are transitive, their use in the passive is very restricted and only possible with specific uses of ‘have’, primarily because the verb does not involve an agent (Willis, 1991:144; Bhatt and Finch, 2001). (To note, however: it is possible to have an agent that does not refer to the doer of the action, as mentioned in section 2.3.8.) Thus, ‘Sally has two toys’ cannot be rendered as ‘Two toys were had by Sally’. It is, however, possible to say, ‘The same problem has been had by a number of people’. Similarly, Huddleston and Pullum (2002: 298) highlight that the verbs that may occur in both the transitive and the intransitive greatly outnumber those restricted to only one category. For example, ‘to fly’ may or may not take a direct object: it is intransitive in ‘Most birds can fly’, but transitive in ‘The pilot is flying the plane’ (Alsuhaibani, 2012).

Adejare (2015: 41-50) provides evidence for a syntactic relationship between transitivity and voice. She analysed a 17,600-word corpus comprising 2,187 finite verbal group clauses of transcribed spoken instructional texts belonging to the various categories (i.e., Christian religious knowledge, geography, physics, and chemistry), recorded in selected secondary schools in Nigeria. Her results show that active voice was dominant, accounting for 91% of verb uses, while the passive made up just 9%. As for Transitivity, 67% was transitive and 33% was intransitive. Their combined occurrence was 25% active intransitive, 65% active transitive, 8.1% passive intransitive, and 1% passive transitive.

The passivisation of transitive verbs differs slightly from that of intransitive verbs, and the data show that most Indo-European languages – as well as Uralic, East Sudanic, Oregon Coast, and Uto-Aztecan languages – permit passivisation of both intransitive and transitive verbs. Austronesian, Altaic, Afro-Asiatic, and Eskimo-Aleut languages, in contrast, display a divided pattern that only partially allows the passivisation of intransitive verbs (Neshcheret, 2016: 44). It can be concluded that, when a passive morphology is extended to express reflexive meaning, a language is twice as likely to embrace passives from intransitive verbs (ibid, 55). The study also revealed the restrictions on the intransitive verb passivisation process tend to be of a semantic nature (ibid, 69).

Transitivity is not a simple issue. To shed some light on the topic, Neshcheret (2016: 5) identified three approaches adopted by various scholars: syntactic-semantic, semantic, and syntactic. Each approach has been adopted in numerous studies. Hopper and Thompson (1980, cited in Neshcheret, 2016), for instance, adopt a syntactic-semantic approach. They argue that, if the clause indicates two participants and the action is shifted from one to the other, it is transitive. Van Valin (2005, cited in Neshcheret, 2016), and Van Valin and LaPolla (1997, cited in Neshcheret, 2016) adopted the semantic approach in their ‘role and reference grammar’ studies, suggesting two key semantic roles, ‘actor’ and ‘undergoer’, which roughly correspond to the more conventional terms, ‘agent’ and ‘patient’.

Dixon and Aikhenvald (2000, cited in Neshcheret, 2016) take a syntactic approach to determine transitivity. They suggest a practical definition that correlates passivisation with syntactic arguments including intransitive subject, transitive subject and transitive object. Similarly, Kalinina et al. (2006, cited in Neshcheret, 2016: 8) believe that transitivity is a syntactic feature of the verb. However, they add that it is not sufficient to consider the number of verbal

arguments to determine whether the verb is transitive: rather, it is also essential to examine the semantics of the arguments. They consider the verb to be transitive if the two arguments are agent and patient, arguing that the verb is either unergative or unaccusative if there is only one argument that is a patient or an agent. The difference between semantic and syntactic transitivity, according to Helbig (1978, cited in Neshcheret, 2016: 8), is that in a passive verb with an object, the action must be transferred from the subject, which is marked by the nominative case, to the object, which is marked by the accusative case. In the latter, by contrast, if the verb takes an object marked with an accusative case and, under the passivisation process, it can become the subject, it is syntactically transitive.

Furthermore, Mattia-Viviès (2009) believes that what makes passivisation possible is the notion of transfer from subject to the object through the verb, and not necessarily the presence of an object complement of the verb in the active. She argues that the main syntactic parameters on which the notion of transitivity is founded cover different situations and cannot serve as reliable tool to describe passivisation. To summarise, transitivity and passivisation are related according to the following (ibid):

- An active transitive sentence with a passive correspondent – for example, ‘The snow damaged the house’ passivises as ‘The house was damaged by the snow’.
- An active transitive sentence without a passive correspondent – for example, ‘She resembles her mother’ cannot passivise. Other examples which, in some senses cannot passivise, include ‘weigh’, ‘hold’, ‘number’, and ‘cost’.
- An active intransitive sentence without a passive correspondent – for example, ‘Roses bloom’.
- An active intransitive sentence with a passive correspondent – for example, the intransitive verb ‘laugh’ can be passivised when followed by a phrase beginning with ‘at’, such as, ‘If you have this hairstyle, you will be laughed at’.

2.3.11 Agent in the Arabic passive construction

There is a strong morphological, syntactic, and semantic relationship between a verb and an agent in an active verbal sentence. This is one reason why Arabic prefers an active construction unless there is an underlying reason for using the passive and deleting the agent (Alsuhaihani, 2012). As mentioned, the passive in Arabic is traditionally agentless (Cowan, 1964, 59; Khalil, 1993:169; Ryding, 2005). However, this does not mean that a passive implies no agent is

involved. The Arabic passive voice construction, in fact, indicates implicit or understood external agency: it is not semantically agentless (Saad, 1982: 34-35). While CA does not permit a true agent with a passive verb, Cowan (1964), Suleiman (1998: 164) and Ryding (2005: 668) note that, in MSA, an agentive phrase ‘by-phrase’ is sometimes used with a passive verb. These issues are discussed in the following section.

2.3.11.1 The influence of the English agentive phrase ‘by-phrase’ on Arabic passive

Although the CA passive is agentless on the surface (i.e. no agent can be explicitly expressed), MSA has many ‘agentive’ constructions equivalent to English agentive phrases (Saad, 1982: 36-37; Schulz, et al. 2000; Ryding, 2005: 668). Al-Raba’a (2013: 216) suggests that English language contact through translation has influenced the Arabic agentive phrase via a grammaticalisation process known as ‘pattern replication’. According to Khalil (1993: 172), MSA, as the language of the press, media and modern literary works, tolerates the occurrence of the agentive passive. Many studies confirm that the agentive passive is a contemporary innovation that can be seen in newspapers and translated works (Abdel-Hamid, 1972, cited in Saad, 1982) and many Arabs have even come to accept agentive passive sentences as a fully integrated part of the Arabic language (Khalil, 1993: 172; Abu-Chacra, 2007; Naseeb, 2011: 7; Bubeník, cited in Al-Raba’a, 2013: 210). It is very common for translators to translate an agentive English structure into Arabic using an agentive phrase. The agentive passive expands the grammatical possibilities of Arabic by introducing a new structure that was not permitted in CA.

It has also been argued, however, that the use of an agentive phrase with an Arabic passive structure limits the Arabic language. Instead of explicitly stating the agent, Arabic uses various methods to imply it, and the use of an agentive passive in Arabic prevents utilising the full potential of the agentless passive. To mention the agent is to destroy the rhetorical function of the passive. The agent in the Arabic construction is unspecified and its characteristics are determined by co-occurrence restrictions dictated by the semantic and pragmatic nature of the verb. The unspecified agent is a member of a set of noun phrases (including sentential complements) that may occur as the agent in the active (Saad, 1982:35). Such noun phrases imply to the reader or listener the nature of the unmentioned agent, which could be God, a person, animal, or a thing. Thus, in *فُتِحَ البابُ futiḥ al-bāb* ‘The door was opened’, it is understood that the agent could be a person, an inanimate object, or an animal, whereas in the example

الماء شرب الماء *šūriba al-mā* ‘The water was drunk’, it could only be a person or an animal. In the example, افترس الأرنب *ufturisa al-arnabu* ‘The rabbit was devoured’, the agent could only be an animal, whereas in اغتيل الرجل *uġtīla al-rajul* ‘The man was assassinated’, the agent could only be human. In قرأت الرسالة *qurī‘at al-risalah* ‘The letter was read’, the agent could only be a literate human, while in حكم عليه *ḥukima ʕalayhi*, ‘He was sentenced’, the agent could only be a human judge. Finally, in توفي الجد *tuwuffīya al-jadd* ‘The grandfather’s soul was taken’, the agent could only be God. (ibid).

In addition, while the English ‘by’ cannot occur in active constructions, its Arabic equivalents can. For example, the active form corresponding to ‘Layla was dressed by her auntie’ cannot be ‘Layla dressed by her auntie’. In contrast, the Arabic agentive phrase can occur in active constructions. For example, اَلْحَقُّ مِنْ رَبِّكَ *(surah al-baqarah, ayah 147) al-ḥaqq min rabbika* ‘The truth is from your Lord’ (translated by Sahih International) can be thought of as an active construction (though it does not contain a verb) in which the preposition من *min* ‘from’ occurs. Sentences that include such particles are not full passives and, more importantly, they do not semantically or syntactically correspond to the English passive that includes ‘by’ (Saad, 1982: 38).

2.3.11.2 Translators’ behaviour towards passive translation

Notably, Khalil found more experienced translators tended to render English agentive passive into Arabic agentive passive far less often than less experienced translators did (1993: 172). Since there is no agentive passive in CA, new agentive forms have been produced, extending the uses of existing Arabic phrases such as عن طريق *ʕan ṭarīqi* ‘by way of’ and بواسطة *bi-wasati* ‘by means of’. Some of these forms are very old and can be found in the Holy Quran and in CA more generally (for example, the phrase من لدن *min ladun* from in لَدُنْ حَكِيمٍ خَبِيرٍ *(surah hūd, ayah 1) tumma fuṣṣilat min ladun ḥakīmin xabīr* ‘And then presented in detail from [one who is] Wise and Acquainted’ (translated by Sahih International)). However, they are not genuine agentive passive phrases and do not traditionally correspond to the English passive particle ‘by’. Rather, they should be called ‘pseudo-agentive particles’ (Saad, 1982: 36). Saad adds that that prepositions such as عن *ʕan* ‘regarding’, من *min* ‘from’ and بـ *bi* ‘by/with’ indicate the semantic function of the noun phrase that follows them. Accordingly, the case roles of the noun phrases that follow the preposition could be source, instrument, or possessed instrument. Similarly, the phrase بواسطة *bi-wasati* ‘by means of’ was originally a means adverbial, the noun

phrases that follow the means adverbial being assigned the instrument case role in the framework adopted by Saad (1982: 38).

2.3.12 Agent in the English passive construction

In the passive form, the agent in English can have the following formats (Lyons, 1968:376):

- passive with a specific agent (e.g., ‘The cake was eaten by Layla’)
- passive with a non-specific agent (e.g., ‘The cake was eaten by someone’)
- passive without the mention of the agent (e.g., ‘The cake was eaten’)

Biber et al. (2002) note that the agentless passive gives a sense of objective detachment in expository prose. This sense of objectivity is often expected in scientific writing. According to Biber, agentless passives are six times more frequent than agentive passives, while Quirk, et al. (1972:656) report that, in their data, four out of five passive sentences are agentless. Biber et al. (2002:169) provide three interconnected motivations for using the agentive passive:

- To accord with the information-flow principle: when there is preference for presenting new information at the end of a clause; thus, given information is placed before new information.
- To accord with the end-weight principle: when the agent, which is considered a heavier and lengthier element of the clause, is placed at the end, where it does not hold up the processing of the rest of the clause.
- To place initial emphasis on an element of the clause, which can be the topic or theme of the current discourse.

2.3.13 Differences between passive in English and Arabic

English and Arabic belong to two different language families. Therefore, their surface forms are widely divergent, and they employ different sets of linguistic means to indicate passivation (Khafaji, 1996). The differences in the English and Arabic passive systems involves not only their respective forms, but also their functions and stylistic values, which results in a difference between the frequencies of use of the passive voice in the two languages (Baker, 1992). The primary differences are discussed in the following points subsections.

2.3.13.1 Agent

As mentioned in [sections 2.3.9](#) and [2.3.10](#), when the agent is known, Arabic prefers an active structure ([Rosenhouse, 1988:101](#)), whereas English permits both agentive and agentless passives.

2.3.13.2 Form and style

As noted in [Section 2.3.3/2.3.4](#), (cf. [Bakir, 1994](#); [Farghal and Al-Shorafat, 1996](#)) English passivisation can be regarded as syntactic, with the use of verb ‘to be’. Other scholars also claim that Arabic passivisation is syntactic ([Horvath and Siloni, 2005: 6](#); [Laks, 2013](#)), but the fact that passivisation involves changing the vowelling of the active sentence indicates that Arabic passivisation is in an obvious sense morphological. Finally, while the ‘by-phrase’ is heavily used in the passive structure in English, it does not tend to occur in Arabic passive sentences ([Catford, et al. 1974:100](#)).

2.3.13.3 Function

The primary function of the English passive is to express the action of the verb without naming the agent of the action. In Arabic, the passive is traditionally used when the speaker/writer does not want to mention the agent or chooses to keep it hidden for rhetorical purposes (see [sections 2.3, 2.3.5](#)).

2.3.13.4 Frequency

The passive structure in English is relatively rare, compared to the active, but it is used more commonly than in Arabic, which makes only restricted use of the passive ([Di Pietro, 1971: 38](#)). Al-Raba (2013: 210) adds that because Arabic is traditionally unable to indicate the agent in passive structures, the passive is used far less frequently in Arabic than it is in English.

2.3.14 Why does the passive appear less frequently in Arabic than in English? Does Arabic avoid passive?

Arabic is not a passive-avoiding language, as mentioned in [section 2.3.11.1](#). Rather, the rich morphological system of the Arabic verb and the relatively free word order of Arabic sentences provide the language with various alternatives avenues, other than passivised verb forms, for the expression of ideas that English uses the passive to express ([Khalil, 1993](#); [Khafaji, 1996](#)).

2.3.15 Scholarly views on translating the passive from English into Arabic

The subject of translating the English passive into Arabic is a thorny one, primarily because of the aforementioned differences concerning the form of the passive, the differences in frequency of use, and the purposes of it (Baker, 1992: 24). The following section presents the most common techniques used by translators over the years.

2.3.15.1 Translating passive with passive

Some earlier scholars provided a universal formula for translating the passive and insisted on following a literal approach. They advised that a passive structure in the source language should be translated into a passive in the target language, even if it seems clumsy and unnatural or results in the wrong sense (Beekman and Callow, 1974:27). According to this approach, the English sentence ‘The apple was eaten by Sally’ should be rendered by the literal *التفاحة أكلت بسالي* *al-tuffāḥah `ukilat bi sālī*, even though the use of *bi* ‘by/with’ in Arabic here is anomalous. A similar, but less extreme, approach is to advocate for translation of English agentive passives into Arabic agentive passives (Khalil, 1993). This could involve using a form such as *بواسطة* *bi-wāsiṭati* ‘by means of’ to express the agent, which, as noted in [section 2.3.11.1](#), is frequently found in MSA but is not a feature of the Classical language, as CA does not accept a true agent with the passive verb.

This approach has been rejected by more recent translation theorists, who have generally agreed that translation should not be a literal transformation from one language to another and that other aspects should be taken into account. Moreover, the translation process should be conscious, with the translator fully aware of the linguistic systems of both languages. Jiří Levý confirms that, ‘the language of the original text and the language of the translation are not straightforwardly symmetric. The linguistic devices of the two languages are not “equivalent” and thus they cannot be translated mechanically’ (1983: 67, [cited in Plecháčková, 2007](#)). The passive voice exists in both English and Arabic, but it might fulfil different roles and have different significance in the two languages. Baker (1992: 103) argues that, even if the translator chooses to translate the passive to a corresponding passive, this does not mean that the translation is correct or that the translator has accurately conveyed the meaning, because during the process of translation, differences in the grammatical structures of the source and target languages often cause changes in the information content. A basic difference, with implications for other functional aspects, is the frequency of use of the passive in the two languages. As

noted, the passive structure is known to occur more frequently in English than in Arabic texts. If all English passive sentences in a typical text were translated into Arabic passive sentences, the result would be an abnormal Arabic text in terms of frequency of its use of the passive (and probably also in other aspects) (Naseeb, 2011: 2).

2.3.15.2 Translating passive with active

One of the approaches to translating passive from English to Arabic, according to Thatcher, et al. (1942), Mouakket (1986), Rosenhouse (1988), Khalil (1993), El-Yasin (1996) and Qassim (N.D.), is to shift (or transpose) the English passive sentence into a corresponding active sentence in Arabic. For example, the English sentence ‘The apple was eaten by Sally’ might be rendered as *أكلت التفاحة سالي* *'akalat al-tuffāḥah sālī* (literally ‘Ate the-apple Sally’), thereby retaining the rough source text word order and probably also the information structure in the target text. Mouakket (1986: 140) insists that the agent in an Arabic passive sentence must be deleted and that, if it were to be mentioned, an active sentence must be used. Thus, if the English sentence, ‘The apple was eaten by Sally’, is to be translated as an Arabic passive, it must be rendered as *أُكِلَت التفاحة* *'ukilat al-tuffāḥah* ‘The apple was eaten’ (literally ‘Was-eaten the-apple’), with no equivalent of the English ‘Sally’. Similarly, El-Yasin (1996: 24) argues that it is very much preferable to translate an English passive into an active sentence in Arabic for two reasons: a general reluctance to use the passive and because it is preferable not to mention the agent in a passive structure. On the other hand, Matthews et al. (2000) argue that translating the English passive structure into Arabic alternatives, as some scholars suggest doing (Mouakket, 1986; El-Yasin, 1996), could pose a problem because alternative translation choices can affect the semantic roles and relations in the type of functional equivalence intended. To illustrate, translating a passive structure into an active could shift the author’s stance; for example, if authors want to distance themselves from the propositions stated in the texts or to show objectivity.

Though the case studies mentioned above are undoubtedly useful, they are deficient in two aspects. First, the case study of Khalil (1993) focuses on translating decontextualized individual passive sentences, overlooking the strong relationship between the passive voice and its rhetorical function. Existing studies also ignore the grammatical factors that constrain the translation equivalents of the English passive (Al-Ali and Allieheibi, 2015). Baker (1992: 102) adds that rendering a passive structure with an active structure, or vice versa, in a

translation can affect the amount of information given in the clause, the arrangement of the semantic elements (such as the agent and the affected entity), and most importantly, the focus of the message.

2.3.15.3 English agentive passive with Arabic agentive passive – other translation techniques

Other translation and contrastive-linguistics scholars argue that the English passive should not be translated using one strategy alone. Rather, they encourage translators to employ other replacements, depending on the context.

Farghal and Al-Shorafat (1996:106) investigated how translators in two groups (MA translation students and translation professors) applied translation strategies to translate passive sentences from English into Arabic. Their results identified five such strategies (arranged in their study from the most to the least commonly used):

- I. Nominalized verbal noun. This strategy, the authors claim, is the most useful. They state that Arabic appears to have two types of pleonastic verbs (verbs often devoid of semantic content): pleonastic verbs that always go with semantically based passives, which are passive in meaning but not in form, and pleonastic verbs that always go with semantically based actives. For example, the verb قامت ليلى بزيارة المدرسة *qāmat* in *qāmat laylā bi ziyāratī al-madrasati* 'Layla visited the school' is a pleonastic active verb, whereas the verb تعرّض البيت للحريق *taʿṣaraḍ* in *taʿṣaraḍ al-baitu lil ḥariyq* 'The house caught fire' is a pleonastic passive verb. Their data reveal the positive employment of pleonastic passive verbs in nominalisation for translating English passives into Arabic. For example, the English passive sentence 'Currently Chinese food is appreciated all over the world', can be translated as: في الوقت الحاضر يحظى الطعام الصيني بتقدير في جميع أنحاء العالم *fi al-waḡti al-ḥadir yaḥḗza al-ṭaʿāmu al-ṣīniyyu bi taqḍīrin fi jamīʿi ānḥāʿi al-ʿālam* 'Currently the Chinese food has the appreciation all over the world'. The passive English 'is appreciated' can be translated into an Arabic nominalisation, involving a verb plus a prepositional phrase with an abstract noun يحظى بتقدير *yaḥḗza ... bi taqḍīrin*.
- II. Passive. For example, 'Gold is often used for decoration' is translated as يُستعمل الذهب في التزيين *yustaʿmalu al-daḥab fi al-tazyīn* 'Is-used the-gold for decoration'.
- III. Adjectival. If English passive verbs are subject to adjectivisation in Arabic, they are mostly stative or non-dynamic in nature (i.e. involving minimal to no action). For example, 'Chinese food is esteemed all over the world' can be translated as وللطعام

العالم الصيني قيمته في جميع أنحاء العالم *wa lil taḥāmi al-ṣīniyyu qīmatuhu fī jamīʿi ānḥāʾi al-ʿālam* 'And for the Chinese food a value all over the world'. The authors recommend this strategy when confronting non-dynamic, non-action, English passive verbs.

- IV. Active. The authors claim that the existing literature tends to overestimate how common this strategy is for translating English passives into Arabic. An example of this strategy is the sentence, 'That study was conducted by scientists', which is translated as قام العلماء بتلك الدراسة *qama al-ʿulamāʾu bi ʾijrāʾ tilka al-dirāsah* 'The scientists conducted that study'.
- V. Pseudo-active (or pseudo-passive). These verbs have an active form and a passive meaning. This strategy is the least common, according to the study results, but the authors argue that it is nonetheless very important, especially for translating certain English passive verbs (e.g., 'be influenced' and 'be divided'). For example, 'The region was divided into the two independent countries' may be translated as ولم تنقسم المنطقتين إلى بلدين منفصلين إلا مؤخرًا *wa lam tanqasim al-manṭiqatayn ʾilā baladayni mustaqillayni ʾillā muʾaxxaran* 'And the region did not divide into two independent countries until recently'. The Form VII verb تنقسم *tanqasim*, which is active in form but passive in meaning, is used here to translate the passive verb 'divided'. Al-Ali and Alliheibi (2015) identify two situations that give rise to the use of pseudo-passives: casual relations and presentation verbs. In casual relations, verbs such as 'constrain', 'affect', and 'influence' frequently give rise to pseudo-passives. For example, 'Their cooking style was influenced by their surroundings' is translated as تأثر أسلوبهم بما حولهم في الطبخ *taʾaṭṭar uslūbuhum bimā ḥawlahum fī al-ṭabḵ* 'Was influenced by the surroundings the cooking'. In presentation relations, verbs such as 'present', 'divide', and 'show' also give rise to pseudo-passive forms. (An example of this is that mentioned above in relation to the verb 'divide'.)

Khafaji (1996:104) proposes similar strategies for translating the English passive into Arabic:

- passive finite verb
- active finite verb
- nominalization using the infinitive
- past participle

A recent corpus-based study by Jamel and Khaled (2015:85) found three patterns in translations of the English passive in scientific articles:

- translation of the English passive sentence with an Arabic passive sentence
- translation of the English passive sentence with an Arabic active sentence
- translation of the English passive sentence with an Arabic nominal sentence, using either an infinitive or a passive participle

Another study by Al-Ali and Alliheibi (2015) found that, when faced with passive sentences, Arab translators typically resort to a number of techniques, such as exchanging the English passive for one of the following:

- مصدر *maṣḍar* ‘a verbal noun’
- a pseudo-active verb structure
- an active sentence structure
- a standard ‘vowel melody’ passive
- omitting the passive structure in the TT

As noted in section 2.3.5, previous studies have suggested that the use of the passive in Arabic is more restricted than in English. Therefore, opting for alternatives is unavoidable if one wants to achieve an idiomatic Arabic TT. However, the choice should not be made randomly. The translator should replace the passive structure in English with a translation that they believe to be functionally and semantically acceptable. It can be concluded that the roles of the passive in Arabic and in English are by no means identical and various other factors, according to Baker (1992), should be taken into account: the form, function, stylistic value, and the frequency of use. As Nida and Taber (1982:4) note, true communication between languages occurs when the genius of each language is respected, thus the potentialities of the receptor language must be exploited to the greatest possible extent, rather than forcing the formal structure of one language at the expense of the other.

2.4 Passivisation in the Holy Quran

Due to the Islamic doctrine of the inimitability of the Holy Quran as the word of God, the linguistic features of the Quran, including the use of the passive, have been a topic of discussion among Arab grammarians since the Classical period. Among the 18,181 verbs in the Quran, only 957 are in the passive form (Nofal, 2011:149). According to Nofal (2011), Quranic passive

sentences are each either agentless or agentive. This contradicts the view of most traditional and contemporary Arab grammarians that the passive does not have an expressed agent, at least in its surface structure.

Nofal (*ibid*) confirms that the agentive passive exists in the Quran for purposes determined by God, which include three principles: to accord with the information flow in the sentence, to accord with the principle of end-weight, and to accord with end-focus (i.e., placing initial emphasis on the topic or theme of the clause). The Quran uses a variety of passive constructions, each serving a different purpose. Jamel and Khaled (2015:19) report five functions of the passive in the Quran:

- To express criticism, blame or disapproval of something – for example, *أَيَحْسَبُ الْإِنْسَانُ أَنْ يُتْرَكَ سُدًى* (*surah al-qiyaamah, ayah 36*) *'ayaḥṣabu al-'insānu 'an yutraka sudan* ‘Does man think that he will be left neglected?’ (translated by Sahih International).
- To show that a large number of people are being addressed – for example, *وَإِذَا قِيلَ لَهُمْ اسْجُدُوا لِلرَّحْمَنِ قَالُوا وَمَا الرَّحْمَنُ الْقَالُوا مَا ال-رَّحْمَنُ* (*surah al-furqān, ayah 60*) *wa-'idā qīla lahum 'usjudū lil-rahmān qālū wamā al-rahmān* ‘When it is said to them, Prostrate to (Allah) Most Gracious!, they say, And what is (Allah) Most Gracious?’ (translated by Yusuf Ali).
- To show constancy and stability – for example, *وَلَا تَقُولُوا لِمَنْ يُقْتَلُ فِي سَبِيلِ اللَّهِ أَمْوَاتٌ بَلْ أَحْيَاءٌ وَلَكِنْ لَا تَشْعُرُونَ* (*surah al-baqarah, ayah 154*) *wa-lā taqūlū liman yuqtalu fī sabīli Allāhi 'amwāta bal 'aḥyā'un wa-lakin lā taš'urūn* ‘And say not of those who are slain in the way of Allah: "They are dead." Nay, they are living, though ye perceive (it) not’ (translated by Abdullah Yusuf Ali).
- To show supplication – for example, *عُلِّتْ أَيْدِيهِمْ وَلُعِنُوا بِمَا قَالُوا* (*surah al-mā'idah, ayah 64*) *gullat 'aydīhim wa-lu'īnū bimā qālū* ‘Chained are their hands, and cursed are they for what they say’ (translated by Sahih International).
- To show sarcasm, irony, and mockery – for example, *وَالَّذِينَ كَفَرُوا بِآيَاتِنَا وَلِقَاءِ الْأَجْرَةِ حَبِطَتْ أَعْمَالُهُمْ هَلْ يُجْزَوْنَ إِلَّا مَا كَانُوا يَعْمَلُونَ* (*surah al-'aṣrāf, ayah 147*) *wā-alladīna kaḍḍabū bi-'āyātīnā wa-liqā' i al-'ākīrati ḥabīṭat 'aṣmāluhum hal yujzawna 'illā mā kānū ya'malūn* ‘And those who denied Our Signs and (the) meeting (of) the Hereafter - worthless (are) their deeds. Will they be recompensed except (for) what they used to do?’ (translated by Sahih International).

The agent is generally introduced by *مِنْ* *min* or *مِنْ لَدُنْ* *min ladun*. For example, *كِتَابٌ أَحْكَمَتْ آيَاتُهُ* (surah Hūd, ayah 1) *kitābun 'uḥkimat 'āyātuḥu tumma fuṣṣilat min ladun ḥakīmīn ḡabīri* is translated as, ‘This is a Book with verses fundamental (of established meaning), further explained in detail from One who is wise and well-acquainted (with all things)’ (translated by Abdullah Yusuf Ali). Nofal shows that in ‘the corpus of the Holy Quran’ – or more accurately, ‘The Quranic Arabic corpus’, the only recognised Arabic corpus of the Holy Quran – there are semantic reasons why the passive voice is often preferred to the active voice (Nofal, 2013:894): namely, to express the prominence of the goal and agent, shifting attention from the agent, and to elaborate on the agent. The passive is also more appropriate for complex sentences, suspense-inducing effects, and the maintenance of the same grammatical subject over successive sentences. Al-Raba’a (2013: 211) also notes that the use of the particle *مِنْ* *min* in agentive passives in Quran is prevalent when the agent is God and is seldom, if ever, employed in other Arabic sentences. For example, *كِتَابٌ أَحْكَمَتْ آيَاتُهُ ثُمَّ فُصِّلَتْ مِنْ لَدُنْ حَكِيمٍ خَبِيرٍ* (surah Hūd, ayah 1) *kitābun 'uḥkimat 'āyātuḥu tumma fuṣṣilat min ladun ḥakīmīn ḡabīri* which is translated as ‘This is a Book with verses fundamental (of established meaning), further explained in detail from One who is wise and well-acquainted (with all things)’ (translated by Abdullah Yusuf Ali), *وَاتَّبِعْ مَا يُوحَىٰ إِلَيْكَ مِنْ رَبِّكَ* (surah al-aḡzāb, ayah 2) *wa-ttatbiʿ mā yūḡā ilay-k min rabb-ik* ‘But follow that which comes to thee by inspiration from thy Lord’ (translated by Yusuf Ali), and *وَيَقُولُ الَّذِينَ كَفَرُوا لَوْلَا نُزِّلَ عَلَيْهِ آيَةٌ مِنْ رَبِّهِ* (surah al-rraʿd, ayah 27) *wayaqūlu allaḡḡīn kaḡarū lawlā 'unzil ʿalī-hi 'āyah min rabb-ih* ‘And those who disbelieved say, "Why has a sign not been sent down to him from his Lord?"’ (translated by Sahih International). All these examples place God as the agent.

In other agentive passives, such as *فَأَمَّا ثَمُودُ فَأُهْلِكُوا بِالطَّاغِيَةِ وَأَمَّا عَادُ فَأُهْلِكُوا بِرِيحٍ صَرَّصَرٍ عَاتِيَةٍ* (surah al-ḡaqqah, ayah 5-6) *fa'mā ṡamūdu fa'uhlikū bilṡāḡīyah wa'mā ʿāda fa'uhlikū birīḡ ṡarṡar ʿāṡīyah* ‘The Thamud, they were destroyed by a terrible storm of thunder and lightning! And the Ad, they were destroyed by a furious wind, exceedingly violent’ (translated by Yusuf Ali), there is an agent that is not God. However, it is interpreted as ‘The Almighty Allah destroyed the Thmud with a terrible storm of thunder and lightning, and ‘He destroyed the Ad with a furious wind, exceedingly violent’.

Al-Raba’a adds that an agentive passive structure is sometimes possible when two objects exist in the sentence along with the agent (one is a direct object and the other is an indirect object).

On the other hand, if the passive sentence has just one (direct) object, it is grammatically incorrect to mention the agent.

The agentive passive presence in the Quran can be explained in the following ways:

- Some passives are highly ambiguous; and depending on their interpretation, the ‘agentive’ phrase could be regarded as a standard non-agentive prepositional phrase.
- Some passives are pseudo-passives.

In addition, almost all traditional Arab grammarians agree that Arabic is traditionally agentless.

2.5 Translating the passive voice from Arabic into English

Translating the English passive into Arabic causes difficulties due to the disparities between the languages on the syntactic and other levels and translating the Arabic passive into English is no less complicated. The reasons for this given in the literature include the following: (i) the passive is statistically less frequent in Arabic than in English; (ii) the agent serves different syntactic and semantic purposes in the two languages; (iii) there are differences between the word orders of the two languages; (iv) translators attempt to achieve a natural equivalence with the target language, making structural adjustments – often because the agent is not to be mentioned in Arabic (Rhazi, et al. 2017). A study by Jamel and Khaled (2015:80) exploring the frequency of the passive in Arabic source texts versus their English translations found that the English translations had a higher percentage of passive verbs (7.5%) than the Arabic source texts (5.8%).

Translating an Arabic passive into an English passive can be problematic, particularly when the agent is accepted in the latter and avoided in the former. One example is the translation of the Arabic sentence *استمتعت الطعام* *ustumtiʿa al-taḥām*, which translates literally into English as, ‘The food was enjoyed’. However, a more standard English sentence would be with an agent, e.g. ‘The food was enjoyed by the girl’ (with the girl being the person doing the eating), as the agent is avoided when it is a personal pronoun and retained for anything else.

2.6 Translating the passive voice from English into other languages

Chomsky (1981, cited in Ishizuka, 2010: 16) notes that a good place to start when learning about the passive voice systems in other languages is understanding the English passive and its principles. When translating the passive voice from English into another language, issues are

to be expected. Generally, differences in grammatical features, as well as cultural differences between the languages, can create problems in translation. It has been observed that the translation of the English passive voice has left its fingerprint on a variety of languages, including those described in the following sections. This is to show the influence of the English passive voice is not limited to the Arabic passive.

2.6.1 English to Indonesian

The translation of the passive from English into Indonesian has been semantically and syntactically analysed by Widya and Ayu (2016). The data in their study were analysed using a qualitative descriptive approach. Semantically, the translation sounds natural and delivers the correct meaning where the source text is adapted to the cultural context of the target text. Syntactically, the translated text uses grammatical features of both the SL and TL (Widya and Ayu, 2016:130). There is a grammatical unit shift in the translation of the English passive voice into the Indonesian passive voice (129).

2.6.2 English to Czech

Plecháčková (2007) investigated the passive voice in both English and Czech. The author argues that the function and use of the passive voice are different in the two languages. They are somewhat similar, however, in that – in both languages – the passive is used to express verbal action, without specifying the agent; but unlike English, Czech has two types of passive: the periphrastic and the reflexive. The first has a similar structure to that of the English passive; hence, it is often translated into an English passive form. The second does not have a corresponding form in English and is typically translated into an English active form.

Czech makes no deliberate efforts to avoid the passive, but the structural differences – in addition to the availability of several active voice possibilities – make the passive less important than it is in English. Czech is similar to Arabic in that it prefers an active structure in the target text when the agent is expressed. Passive is used in translation when other active forms are not suitable to replace the agentless English passives (ibid).

2.6.3 English to German

Both English and German belong to the West Germanic language group; but unlike English, which has been significantly influenced by other languages, German has stayed relatively close to its roots (Treptow, 2012:1). There is an obvious contrast between the passive voice

participant roles of the two languages. A study by Bisiada (2018:5) found that English was more flexible and allowed any participant role to become a subject, while in German, the participant role must have a direct-object function in the active voice to become the subject of the passive structure. The study found that translators chose to use empty subjects and to keep sentences in the passive voice, even in scenarios where the subject of the active construction was an indirect object.

2.6.4 English to Persian

The passive in Persian emphasises the action, rather than the agent of the action, and it occurs less frequently than it does in English (Abbasi and Arjenanb, 2014:10). Translation has changed some grammatical elements of the Persian language. The passive, for instance, is expressed using two methods. The first appears in both speech and writing and includes quasi-passive verbs (Mohammadian, et al. 2017: 23). The other, more common method is used in writing and has emerged through translations from English and French, resulting in a new kind of passive verb in the form of a verbal group. This combines *mored* ‘a particular idea about something’, and *gharar gereftan* ‘be fixed on, upon, be placed, or become quiet’, or *vaghe shodan* ‘take place, happen, be located (at)’ with transitive verbs, such as *morede khoshoonat gharar gereftan* ‘to be violated’ (ibid, 2017: 32).

2.6.5 English to Greek

Malamatidou (2013) considered the influence of English structure on the use of the passive in modern Greek translated texts. She investigated whether texts translated from English into Greek were closer to their source language than the original Greek texts. Both English and modern Greek prefer active over passive voice, but the passive is more common in English. However, when original Greek articles were compared with their translated counterparts, the frequency of the passive did not differ significantly. In fact, the distribution of the passive in the original Greek texts appeared to be closer to that found in English than to that found in Greek texts translated from English. Malamatidou’s results indicate that modern Greek employs translation-specific features in target texts that are dependent on the source language. The results also point to a similarity between translated and more recent non-translated texts, as compared to older non-translated texts, suggesting that English translation encourages the use of particular linguistic features in non-translated texts. Malamatidou argues that this does not necessarily mean that English does not have an influence on Greek translated texts. On the

contrary, it means that the influence of English has extended to include original texts. Another explanation for this is that the passive is more commonly used in formal texts than in non-formal ones. Moreover, modern-Greek word-order is generally fairly flexible, with SV being the most common. However, Malamatidou shows that the frequency of this structure is much higher than suggested by earlier research, raising the possibility of external influence – in particular, the influence of English patterns. Even where the VS word order would be an easier option, Malamatidou found that SV was preferred.

2.6.6 English to Chinese

As mentioned previously, the passive is used in English when the agent is unknown or does not need to be mentioned; but in Chinese, traditionally, the agent must be included in the passive sentence, and when it is difficult to identify, expressions such as ‘person, someone, people’ can be used to refer to it (Xiao and Dai, 2014: 18). Passives that reveal the agent are usually referred to as ‘long passives’, whereas those that do not are classified as ‘short passives’. The passive in Chinese is marked by the syntactic passive markers *bei*, *jiao*, *rang*, and *gei* and the archaic structure *wei ... suo*. Only three of the five Chinese syntactic markers (*wei ... suo*, *jiao*, and *rang*) can appear in the long passives, while *bei* and *gei* appear in the short passives but in proportions lower than those found in English. Some passive markers, such as *bei*, can be used with long and short passives, while *wei* and *suo* are only found with the long passive. Xiao and Dai (2014: 18) compared original Chinese texts with English translations, using comparable corpora, and conclude that the proportion of short passives in the corpus of translational Chinese was considerably larger than that in the Lancaster corpus of Mandarin Chinese. Since the short passive is the statistical norm in the English passive, the greater use of the short passive in the translated Chinese texts points to the influence of the source language (i.e., English). It was also revealed that, in the translated Chinese, the passive was significantly more common than in the original Chinese texts. Since the passive is over ten times more frequent in the English texts than in the original Chinese, it is unsurprising that the passive occurs more frequently in translated Chinese texts (ibid).

2.6.7 English to Catalan

A study by Griera (2014) analysed 12 randomly chosen, 20th-century, English novels and their Catalan translations, written by different translators for greater objectivity. It has been reported that some Catalan registers have seen an increase in the use of the passive voice due to the

influence of the English language. Media, specifically dubbed English films and television, have encouraged this influence. When translating passive sentences into Catalan from English, many translators are influenced by the English passive form (Griera, 2014: 26).

2.6.8 English to Japanese

Ogawa (1967: 23) conducted a study on the passive form in Japanese and the influence of the West. He reports that contemporary Japanese grammar is a mixture of the traditional grammar and that introduced in the 19th century by the Dutch and the English. Many describe contemporary Japanese grammar as the traditional form, heavily influenced by Europe. Some of the first Japanese grammar books were written in Spanish and Latin and based on Latin grammar, written for the purpose of spreading Christianity in Japan. It has been reported that the transformation process of the transitive into the intransitive verb sentence in Japanese is the same as that of the English active into the passive voice (ibid, 65). In Japanese, as in English, the ordinary passive sentence is formed from the active sentence. The object in the active sentence is transformed into the subject of the passive sentence. The Japanese active verb is converted into the passive by adding the suffix *-(r)areru*, there being two forms of the Japanese passive suffix: *-areru*, when the stem ends with a consonant, and *-rareru*, when the stem of the verb ends in a vowel. Moreover, the subject of the active sentence in Japanese can take the agent role in the passive structure when followed by the particle *-ni*, similar to ‘by’ in English (ibid, 71). Ishizuka (2010: 15) also reports that the Japanese passive is very similar to the English passive. She adds that, in Japanese passives, the meaning of the dative ‘by’ is similar to that of the English ‘by’.

2.6.9 English to Italian

In one corpus-based study, popular physics articles translated from English into Italian were compared with a corpus of original Italian texts to investigate whether the structure of the Italian language had been retained during the translation process from English. The results revealed that the translations, to a certain degree, did use the English structure. However, the passive voice and impersonal constructions were frequently rephrased in the active voice (Musacchio, 2003: 93).

To summarise, this chapter explains how English changed and expanded over the years from being a migrant language from northern Europe, to be the most dominant language today in various fields, the factors that made that possible, and why it has maintained its status. This

chapter also discusses the different types of users of English, reasons for learning English, and attitudes towards it. Next, the influence of English translation on the syntax of other languages, namely, Taiwanese Mandarin, mainland Chinese, Japanese, Hebrew, Punjabi, German, Greek, French, Czech, Italian, Swedish, and Arabic is mentioned briefly. This is followed by background information on the origin of the Arabic and English languages, how they came into contact, and the influence of English on Arabic grammar, which is then narrowed to the passive voice. The next section discusses the passive voice, specifically its structure, uses, the passivisation process, medio-passive, transitivity, and the agent in Arabic and English. The chapter concludes by mentioning passivisation in the Holy Quran, how the passive is translated from English into Arabic and from English into other languages.

Chapter Three

Theoretical Framework and Methodology

3.1 Theoretical framework: introduction to corpus-based method in translation studies

The corpus-based approach has proven to be a valuable source of information when studying language in general – and translation and translation research specifically – especially in recent decades, with the wealth of data now emerging from studies using distinct types of corpora. This chapter examines the use of corpora in translation studies. It begins with the early development of the method and then provides definitions of the different types used in the current study.

3.1.1 Historical overview

Corpus methodology dates back to 1940, when it was used by field linguists. At that time, it was harshly criticised for its ‘skewedness’ and was marginalised as a result in the late 1950s. During that period, a corpus typically consisted of shoeboxes filled with paper slips, and the data used were simple collections of written and transcribed texts. It was virtually impossible to collate and analyse large bodies of data. Then, between 1957 and 1965, Chomsky shifted the direction of linguistics – from empiricism towards rationalism. During that period, a number of general linguists rejected corpus data (McEnery, et al. 2006). The birth of modern corpus linguistics dates back to the early 1960s, when the first generation of one-million-word computer-readable corpora were created at Brown University. The Brown corpus was the first corpus, and its stated aim was to represent contemporary written American English (Laviosa, 2006:5; Zanettin, 2012: 7). The rapid development of corpus linguistics in 1980s saw the marriage of corpora with computer technology, and both corpus-based studies and the number and size of corpora have all since increased dramatically (McEnery, et al. 2006; Baker, 2009: 238). Corpora can be used in many different disciplines, including lexicography and lexical studies, grammatical studies, diachronic studies, language variation, sociolinguistics, language education, literary and stylistic studies, critical discourse analysis, and contrastive and translation studies (McEnery, et al. 2006).

Corpus-based translation studies first appeared in the beginning of 1990s, pioneered by Mona Baker, who employed a corpus to explain translation phenomena (Guo-rong, 2010). The Translational English Corpus (TEC), a multilingual corpus at the former University of

Manchester Institute of Science and Technology (UMIST; now part of the University of Manchester), which is currently available online, was one of the very first in translation research to be created for research purposes under her direction (Zanettin, 2012: 13).

What distinguishes translation-driven corpora from other types of corpora is that the former usually involve the comparison of at least two key sets of data, which may be texts from two different languages or texts in different varieties in the same language (i.e., translated vs non-translated texts; ibid: 10).

Tymoczko (1998:653) rejects the use of a corpus-based approach in translation studies to establish universal laws of translation, arguing that all stages of corpus analysis – from the decision to conduct this type of research to the choice of research questions, from corpus design to the interpretation of results – are permeated by the subjective judgements and intuition of the researcher. However, with the development of electronic models for handling information, any discipline wishing to sustain itself in this fast-paced era must adapt its methods and contents accordingly. Moreover, corpus translation studies provide access to very large quantities of data – more than any single human being could ever manage to gather and investigate in a lifetime without the assistance of electronic tools (Grigaliūnienė, 2013: 74).

The word ‘corpus’ is derived from the Latin for ‘body’, and its plural is ‘corpora’ (McEnery, et al. 2006). Sin-wai (2004: 46) defines a corpus as ‘a body of written or verbal data collected for linguistic analysis or some specific purpose’ (Laviosa, 2006; Zanettin, 2012). Francis defines a corpus as ‘a collection of texts assumed to be representative of a given language, dialect or other subset of language, to be used for linguistic analysis’ (cited in Laviosa, 2006: 6). Zanettin (2012: 7) defines a corpus in the field of linguistics as ‘a collection of texts in electronic format which are processed and analysed using software specifically created for linguistic research’. The three essential qualities of every corpus are machine-readability, authenticity, and representativeness (McEnery, et al. 2006). A corpus differs from other large collections of machine-readable text (e.g., electronic text libraries) in that it is built according to explicit design criteria for a specific purpose (Atkins et al. cited in Baker, 1998: 50).

3.1.2 Reasons for using a corpus-based approach

As Beaugrande (1994, cited in Zanettin, 2012: 7) reports, since language is a social phenomenon and investigating it starts from actual data, corpus linguistics is the recommended methodology for the study of language. Jones and Walter (2015:9) add that a corpus allows us to analyse large quantities of language and discover patterns of usage that human beings may miss. This allows researchers to develop clearer and more accurate descriptions of language, which can inform practice and enhance our understanding of language in use.

In addition to providing a means of handling large amounts of language, a corpus also keeps track of many contextual factors at the same time. Corpora have opened the way to a multitude of new investigations of language use (Biber, et al. 1998).

The use of a corpus also successfully limits dependence on human intuition, whose use cannot be justified beyond personal testimony (Wynne, 2005). Unlike native and expert speakers of a language, corpora can be comprehensive and balanced, show what is common and typical, readily provide accurate statistics, recall all the stored information, deliver vast numbers of examples, offer objective evidence, be made permanently accessible to everyone, and encompass the actual language use of many expert speakers (McEnery, et al. 2006). Corpus linguists are careful not to deny the role of intuition in language research, but they note that results based on intuition differ greatly from those based on evidence from corpora (Grigaliūnienė, 2013:18).

3.1.3 Uses of corpora

Some of the important uses of corpora are as follows (Baker, 1995; Sin-wai, 2004):

- to extract cases of polysemy (i.e., the different meanings of a word) and to determine which are more frequent and which more peripheral
- to obtain lists of words relevant to dictionary compilation
- to calculate word frequencies when choosing entries in target-specific dictionaries
- to identify real-life examples and illustrations for inclusion in intended dictionaries
- to search for both grammatical and lexical collocations (covered later in this research)
- to improve translation quality and provide fruitful learning environments (Beeby et al. 2009:1)
- to generate and verify new linguistic hypotheses (McEnery, et al. 2006)

- to test existing theories and hypotheses (ibid)
- to construct statistical machine translation systems ([Alkahtani, et al. 2015](#))

3.1.4 The disadvantages of corpora

However, [Beeby et al. \(2009:1\)](#) note that corpora have a number of disadvantages, including the following:

- Corpus data have to be interpreted and comparatively evaluated to reach conclusions, and this requires both technical skill and critical thought.
- It is difficult to deny that corpus use is anti-economic in the short-term.
- Corpus consultation and construction are notoriously time-consuming.
- For translators, corpora rarely provide immediate answers to a translation problem, unlike translation memory and machine translation.

Chomsky (cited in [Olohan, 2004](#)) has also argued the use of corpora in linguistic research has a fundamental shortcoming, in that linguistics is the study of language competence, while the data provided by the corpus are primarily concerned with language performance. What Chomsky means by ‘competence’ is the human mental ability to produce language, while ‘performance’ is the utterances that speakers actually produce. Malmkjaer (cited in [Baker, 1998: 52](#)) has also warned that the amount of data provided by corpora may lead scholars to marginalise problematic cases. However, the current situation is different from what it was even in the recent past, and nobody could deny the importance of employing corpora in research ([Grigaliūnienė, 2013:24](#)). The corpus methodology has opened up several new areas of research and enjoys widespread popularity.

In addition to its shortcomings observed by some theorists, the use of corpora has other limitations: there are certain things that corpora cannot include (e.g., negative evidence and explanations for the data or observations). Additionally, as the findings are usually based on one particular corpus, they can only tell us what is true about that corpus ([McENERY, et al. 2006](#)). The usefulness of corpora also depends upon the research questions at hand, as a corpus is only a method of answering research questions. Xiao (cited in [McENERY, et al. 2006](#)) compares the introduction of corpus methodology into language studies to the invention of telescopes in astronomy: one cannot criticise a telescope for not being a microscope; similarly, one cannot criticise the corpus-based approach for incorrect use of the method.

Nonetheless, a corpus will frequently fail to show features that are anticipated or will show features not typical of the language under study. A corpus, regardless of how detailed its design and how large its size, can never have the precise characteristics of the language it represents. This is because the evolutionary process within and outside of a language cause it to develop continuously – changing the size of its vocabulary, the structure, and the variety of its realisations. Thus, no limits can be placed upon a natural language (Wynne, 2005:6).

3.1.5 The advantages of corpora

The advantages of corpora in research outnumber the disadvantages. Biber, et al. (1998) argue that corpus-based analysis is empirical, analysing actual patterns of use. It utilises a large collection of natural texts, makes extensive use of computers for analysis, and depends on both quantitative and qualitative analytical techniques.

Grigaliūnienė, (2013:16) reports that the advantages of using corpora in language research include the following:

- **Authenticity:** this controversial term can mean different things to different people. In this context, it means natural and genuine spoken, written, or signed language that has occurred naturally for purposes other than linguistic research (i.e., it was not composed for the purpose of analysis) and without the intervention of a linguist. It is more reasonable to investigate language and linguistic problems by examining authentic texts than by inventing sentences and texts.
- **Objectivity:** since there is no prior selection of data when using a corpus, an objective outlook emerges.
- **Verifiability:** corpora provide verifiability. This is a standard requirement in scientific research and, more specifically, in the scientific study of language.
- **Exposure to large amounts of language.**
- **New insights into language studies.**
- **Improvement in learner motivation.**

McEnergy, et al. (2006) add that corpus data is more reliable than data from other sources, occurs more naturally, is contextualised and quantitative, and can provide data that intuitions cannot perceive.

3.2 Corpora in translation studies

Numerous scholars have attempted to classify the types of corpora in translation studies. Biel (2010) proposes four types: monolingual corpora, monolingual comparable corpora, bilingual comparable corpora and parallel corpora. Olohan (2004:35) reports two types:

- corpora of comparable source texts in two or more languages ‘bilingual or multilingual comparable corpora’
- corpora of source texts and their translations into two or more languages ‘parallel corpora’, whether bilingual or multilingual

Baker (1993-1998) identified three types of corpora that are particularly relevant for translation studies: parallel, which she defines as ‘a type of corpus consisting of the same text in more than one language’, comparable, which she defines as two separate collections of texts in the same language, one consisting of original texts in one language (e.g. Arabic) and the other of translations into that same language from a given source language(s), and multilingual, which she defines as ‘sets of two or more monolingual corpora in different languages, built up either in the same or different institutions on the basis of similar design criteria’. For the purposes of this research, we will use Baker’s categorisation.

Reasons for using Baker’s parallel and comparable corpora

The aim of the present thesis is to investigate whether translation-specific features have influenced the Arabic language, which necessitated the use of a combined approach. A comparable corpus, in combination with a parallel corpus, is useful for revealing the linguistic features typical of translated texts. Of the three types of corpora (parallel, comparable, and multilingual), Baker suggests it is the comparable that reveals the most about the specific features of translated texts. Comparable corpora are a useful resource for contrastive studies and translation studies when used in combination with parallel corpora, as mentioned.

To answer the research questions, the parallel and comparable corpora were divided into two sub-corpora each, one containing texts from 1997-2000 and the other containing texts from 2016-2018. The time span of 16 years that separates the two sample periods allowed a reliable comparison. A larger time gap would have been preferable had there been no availability

restrictions. Moreover, it proved impossible to find translated texts in the desired genre from before 1997. The Arabic texts translated from the English in the 1997–2000 texts were compared with those from 2016–2018 to determine diachronic changes. The comparable corpus was then investigated for changes in the non-translated texts.

Bisiada (2016) explains that a diachronic analysis conducted at two points in time will facilitate a comparison of the frequency of the features under investigation at both later and earlier stages. It also ensures that any linguistic differences between the texts are attributed to their status as translations versus non-translation, rather than to confounding variables (Laviosa, 1997:290, cited in Kruger, 2002:88).

Diachronic analysis is the study of linguistic development through time. In his study, Bisiada (2016) applied a diachronic analysis of a corpus at two points in time (1982 and 2008) to investigate concessive constructions. His corpus included English articles from 1982 along with their German translations, and he compared these with texts originally written in German from 2008. As the frequencies are consistent at each point in time, it was easier to describe the diachronic differences between the two sub-corpora. They were described by correlating the corresponding data from each point of time. The frequency ratio was then applied to show diachronic developments and to compare word frequencies between texts. Bisiada found that hypotactic structures were used more frequently in the translated texts from 1982 than in the original texts written in German in 2008.

3.2.1 Parallel corpora

Oakes and McEnery (2000:1) define a parallel corpus as ‘a corpus that contains the same text samples in each of two languages, in the sense that the samples are translations of one another’. Baker (1993/1998:51) defines a parallel bilingual corpus as ‘a type of corpus consisting of original source texts in one language and their translations in other language’. Parallel corpora can be bilingual or multilingual – and unidirectional (e.g. from English into Japanese or from Japanese into English alone) or bidirectional (e.g. including both English source texts with their Arabic translations, and Arabic source texts with their English translations) (Anderman and Rogers, 2008: 21). Texts used for comparison in parallel corpora should cover similar domains, time spans and lengths to guarantee that any linguistic differences discovered result from the texts’ different statuses as source and target texts (Laviosa, 1997:290, cited in Kruger, 2002:88).

3.2.1.1 The uses of parallel corpora

Parallel corpora can be used to provide information on language-pair-specific translational behaviour, to posit certain equivalent relationships between lexical items or structures in source and target languages, and to study the phenomenon of translationese (Baker, 1998:51).

3.2.1.2 The disadvantages of parallel corpora

Johnsson and Oksefjell (1998) do not recommend the use of a parallel corpus, arguing that translated texts are not properly representative of ordinary language use. They suggest that translated texts differ from original texts because of the source-text influence. This problem, however, can be reduced by using a comparable corpus alongside the parallel one. Malmkjaer (1998) adds that copyright permission is usually required for both the source and target texts, and alignment software is also needed to link the two texts.

3.2.1.3 The advantages of parallel corpora

Malmkjaer (1998) states that a parallel corpus can reveal the characteristics of translated texts – such as the avoidance of repetition and tendencies towards explicitness. Mcenery and Xiao (cited in Anderman and Rogers 2008:18) list the advantages of parallel corpora as follows:

- They give insights into the languages being compared that are not likely to be gained via the study of monolingual corpora.
- They can be used for a range of comparative purposes and increase our knowledge of language-specific, typological, and cultural differences, as well as universal features.
- They illuminate differences between source texts and translations and between native and non-native texts.
- They can be used for a number of practical applications (e.g., language teaching and translation).

3.2.1.4 Parallel corpora in the Arab world

Unfortunately, there is a relative lack of interest in the use of corpora in Arabic language studies. While a number of corpora are available on the internet, many Arabic corpora have simply been extracted from online resources such as Twitter (Karima and Smaïli, 2016) and other social networks (Hajjem, et al. 2013); online news websites (Abdul-Rauf and Schwenk, 2009; Smith, et al. 2010; Abdul-Rauf and Schwenk, 2011); and Wikipedia (Abdul-Rauf and

Schwenk, 2009; Smith, et al. 2010; Saad, et al. 2013; Aker, et al. 2013). Such corpora are problematic for reasons that will be discussed later in section 3.2.1.4.2.

3.2.1.4.1 Review of the available Arabic/English corpora

As the source language of the following corpora is Arabic, it was not possible to use them in this thesis.

- Arabic/English Parallel Corpus
- Open Parallel Corpus (OPUS)
- GALE Arabic Broadcast News Parallel Text.
- TRAD Arabic/English Newspaper parallel corpus
- Microtopia (a multilingual corpus extracted from Twitter and Sina Weibo)
- King Saud University Arabic/English Parallel Corpus
- Alkahtani et al. (2015) parallel corpus
- ISI Arabic-English Automatically Extracted Parallel Text
- TED Parallel Corpus
- Hadith corpus
- Quranic Arabic corpus

Properly computerised corpora of parallel texts for English/Arabic are few in number for many reasons (Al-Ajmi, 2011; Al-Thubaity, 2014). First, the practice of using a corpus in research in general – and in translation studies research in particular – is relatively new and many researchers do not even consider it. Second, there is a lack of the free and easy-to-access software needed to compile a corpus and a lack of training on how to use such software. There are also difficulties in handling the Arabic alphabet, due to its cursive nature and the direction of writing (right to left). Third, the search for official, good quality translations in different genres of Arabic is challenging, and the associated copyright issues are time-consuming. Finally, there is a lack of funding for corpus-building and many funding authorities doubt the effectiveness of corpora.

3.2.1.4.2 Review of the available English/Arabic corpora:

- EuroMatrix multilingual parallel corpus
- The English/Arabic Parallel Corpus of the United Nations Texts (EAPCOUNT)
- English/Arabic parallel texts corpus of Kuwait University

- MultiUN: A multilingual UN parallel corpus
- AMARA corpus by Qatar University

A detailed review of the existing English/Arabic and Arabic/English corpora can be found immediately below.

Parallel corpus name	The research paper's title	Access	Size	Genre of the texts	Language pair	Advantages	Disadvantages
English-Arabic parallel text corpus of Kuwait university	'A new English-Arabic parallel text corpus for lexicographic applications'	Limited and requires a username and a password. only available to the university's staff and students	3 million words	Publications of the Kuwait National Council for Culture, Arts, and Letters (English translations of scientific, legal, political, and economic texts with similar stylistic levels)	English texts and with their Arabic translations	The search tool employed in this project was the al-Idrisi search program developed by Sakhr software. Its search abilities cover exact matches, root-based searches, as well as derivatives, synonyms, antonyms, and recognition of Arabic affixes. It also uses wildcard searches, employs relevancy ranking, and ignores common Arabic errors. An Arabic tree bank ¹ was also used.	Not available for public use (only available to Kuwait University staff and students). Not tagged with POS.
Arabic-English parallel corpus ²		Not available for public use	204,117 words, and 7,877 texts	General translated texts from <i>al-Hayat</i> newspaper and opus	Arabic to English		Very small, limited, and not POS tagged. Corpus from Arabic>English .
Gale phase 2 Arabic broadcast news parallel text			42,089 words of Arabic source text and their English translations	Arabic news and other news programmes and broadcasts	MSA source texts and corresponding English translations	All translations done by linguistic data consortium.	Parallel corpus from Arabic>English .
Euromatrix 1996-2011			1.5 million Arabic words	The proceedings of the European Parliament translated	Multilingual parallel corpus	The project's aims involve developing and promoting machine	Most translations are provided by a machine translation.

¹ <https://catalog.ldc.upenn.edu/LDC2004T02>

² <http://aeparallelcorpus.net/index.php/content/search>

				into Arabic (and many other languages)		translation systems	Genre is limited.
English-Arabic parallel corpus of United Nations texts (EACOUNT)		Public	7,550,418 tokens (half English and half Arabic)	Resolutions and annual reports issued by different UN organisations and institutions	English texts and with their Arabic translations	Texts produced by these selected international bodies can be considered highly reliable translations	Difficult to assign the source texts to one of the languages used. Not all documents translated by human translators. Texts not tagged, and genre is limited.
Multin: a multilingual un parallel corpus		Free and available for public use		Texts extracted from UN website	English and Arabic texts		Texts not tagged, dated between 2000 and 2009, and the genre of the texts is not stated.
TED-parallel-corpus ³			12 languages for bilingual parallel corpus, over 120 million aligned structures	Various	Arabic with no English counterpart		Links provided on the website do not work and the corpus material comprises spoken language (not written).
ISI Arabic-English automatically extracted parallel text ⁴			1,124,609 sentence pairs. Word count on the English side is approximately 31 million words.	Extracted automatically from two monolingual corpora: Arabic gigaword and English gigaword.			From Arabic > English. Not tagged with POS. Very expensive to use (4000 USD).
Multilingual corpus at University of Manchester Institute of Science and Technology (UMIST)	Izwaini (2003)	Not available for public use, and copyright permission obtainable only for research investigations	Arabic (1 million tokens)	Involves information technology texts. Texts primarily consist of manuals and online help text for computer systems, hardware, and software, as well as material from multilingual it-specialised websites	From English to Arabic and Swedish		Not available for public use
The Open Parallel Corpus ⁵ (OPUS)		Free, multilingual parallel corpus		Contains translated texts collected from the web.	From Arabic to English	Provides open-source tools for processing parallel and monolingual data as well as	According to its website, all pre-processing was done automatically, suggesting that

³ <https://github.com/ajinkyakulkarni14/TED-Multilingual-Parallel-Corpus>

⁴ <https://catalog.ldc.upenn.edu/LDC2007T08>

⁵ <http://opus.nlpl.eu/>

						several interfaces for searching the data to help with various research activities.	no manual corrections were made. Texts were collected from the internet, thus the sources of the translations are unknown.
AMARA (by Qatar University)	The AMARA corpus: building parallel language resources for the educational domain		2.6 million Arabic words. 3.9 million English words	Extracted subtitles from educational videos (TED and Khan Academy), not hard-copy texts.	From English to Arabic		Translation wasn't necessarily done by professional translators (but by volunteers), hence the quality of the translations is questionable.
King Saud University Arabic-English parallel corpus		Available for public use	Target figure for the corpus is upwards of 10 million words (and counting).	Covers a wide range of text types and rich metadata.	From Arabic to English	All translations by human translators. Project involves the design and implementation of Arabic-English concordance software.	From Arabic to English
Trad Arabic-English newspaper parallel corpus			10,000 words in Arabic and 2 reference translations in English	Articles collected in 2012 from the Arabic version of <i>Le Monde Diplomatique</i>	From Arabic to English		From Arabic to English
Microtopia: a multilingual corpus extracted from Twitter and Sina Weibo ⁶	Microblogs as parallel corpora	A free corpus		Texts extracted from microblogs such as Twitter and Sina Weibo	From Chinese to English and Arabic to English		Colloquial writing style, which poses considerable problems for traditional NLP tools. Also, from Arabic to English.

Table 3.1. Review of the available Arabic/English corpora

It was not possible to use any of the above corpora, for a number of reasons. First, none are 'part of speech' (POS) tagged. More specifically, none are syntactically marked. This could be due to the complexity of Arabic syntax or because the aim of these corpora differs from the aim of this study: this study focuses on English and Arabic syntax, while the other corpora focus on different issues. Second, the texts are primarily limited to online newspapers, videos, websites, and parliamentary proceedings. Newspapers and online websites were not used because it is often difficult to identify the source language. Some of the texts are translated, while others are written in very weak structures and using colloquial language. The videos were

⁶ <http://www.cs.cmu.edu/~lingwang/microtopia/#overview> and <http://www.cs.cmu.edu/~lingwang/papers/acl2013.pdf>

not used because spoken language is different from written language, thus the results could not be generalised to include written language. Moreover, the passive form is rarely used in spoken language (even more rarely than in literary writing) and is more common in written texts (Biber, et al. 2002: 167). This is the case, for example, in the open parallel corpus (OPUS), where the texts are collected from the internet, and in the EAPCOUNT, where the source language is often unclassified. Third, some corpora were not available for public use. For example, access to the English-Arabic parallel text corpus of Kuwait University was limited, required a username and password to access, and was only available for the university's staff and students. Fourth, some texts were translated by machine and not by human translators, which resulted in a lower quality. For example, the translations in the EuroMatrix corpus were performed by machine translation, and the translations in the AMARA corpus were completed by volunteers (rather than professional translators), which affected the quality. Finally, it was difficult to identify the dates of the texts in some of the corpora. The dates on which the texts were published was an essential factor in this study, and none of the corpora included texts written over a long period of time, with the exception of EAPCOUNT.

In addition, other studies done on the translated passive form were lacking (see section 2.3.15.3). In a study by Farghal and Al-Shorafat (1996:106), the results were extracted from ready-made passive sentences that translators were asked to translate. Moreover, some of the translators were not professional. This is problematic because the passive form did not occur naturally in a text. In two studies by Jamel and Khaled (2015:85) and Al-Ali and Alliheibi (2015), the translation techniques mentioned were very general and limited. None of the studies mentioned tracked the changes that occurred to the Arabic passive form over time. The obvious lack of literature, and the mentioned reasons in this section necessitated building raw, annotated and specialised parallel and comparable corpora for this research.

3.2.2 Comparable corpora

A comparable corpus contains components collected using the same sampling frame and similar balance and representativeness (McEnery, et al. 2006; Anderman and Rogers, 2008:20). As mentioned in (section 3.2), Baker (1993/1998:52) defines a comparable corpus as two separate collections of texts. Both collections of texts should cover a similar domain, variety of languages, time span, and length (Olohan, 2004:36).

A comparable corpus was used in this study to identify any consistent or recurrent differences in passive usage between Arabic translated and non-translated texts. The texts covered similar genres, lengths, and time spans, which ensured that any linguistic differences between the texts could be attributed to their different statuses as translations versus non-translations (Kruger, 2002). It has been reported that no other Arabic comparable corpora are currently available (Saad, et al. 2013). However, one successful study proposed a method of extracting comparable articles from Wikipedia and Euro News in multiple languages (Arabic, English, and French) to provide a useful resource for statistical machine translation (ibid). It also managed to extract a parallel corpus from the original comparable corpus and suggested two comparability measures for multilingual articles (binary and cosine). The study also used a bilingual dictionary (Open Multilingual WordNet) for word alignment. The comparability measures showed good scores and proved useful for both parallel and comparable corpora.

3.2.2.1 The uses of comparable corpora

Baker (1995: 235) reports two purposes of comparable corpora:

- Capturing patterns either restricted to translated text or which occur with a significantly higher or lower frequency in translated text.
- Investigating aspects of translators' use of language that are not the result of deliberate, controlled processes and of which they may not be aware.

3.2.2.2 The disadvantages of comparable corpora

Kruger (2002) reports the following disadvantages:

- It can be difficult to identify some translations, especially when the researcher does not have access to the original texts.
- The methodology of this corpus is relatively new and under-developed.
- Comparable corpora can be a poor basis for contrastive studies if the sampling frames are not fully comparable (Anderman and Rogers, 2008:22).

3.2.2.3 The advantages of comparable corpora

Olohan (2004) encourages the use of comparable corpora due to their ability to provide insights into the translators' use of language and, more specifically, into processes that translators may not be aware of and which are not, therefore, the result of a deliberate and controlled practice.

3.2.3 The similarities and differences between parallel and comparable corpora

- The two types of corpora are designed for different purposes. Parallel corpora focus more on translation studies, while comparable corpora are concerned with contrastive studies (Anderman and Rogers, 2008:20).
- They are designed with different focuses. The use of an appropriate sampling frame is essential for a comparable corpus. As a result, the components representing the languages involved must match with each other in terms of proportion, genre, domain, and sampling period.
- In parallel corpora, by contrast, the sampling frame is less relevant, as all the components in the corpus are exact translations of each other (Anderman and Rogers, 2008:20).
- Comparable corpora can be monolingual, bilingual or multilingual. They are, in addition, composed of texts that have no direct translational relationship (i.e., they are not translated from each other; Zanettin, 2012: 7).
- Parallel corpora, in contrast, have a translation relationship that can be either unidirectional or bidirectional (Zanettin, 2012: 7; see the definition of parallel corpora in section 3.2.1).
- What distinguishes comparable corpora (as non-translations) from parallel corpora (as translations) is that the latter imply a common source text (Kenning; cited in Grigaliūnienė, 2013: 74).
- Comparable corpora focus on the product of translation, while parallel corpora prioritise the process of translation (Stewart, 2000 cited in Olohan, 2004:39).

Put simply, the primary difference between parallel and comparable corpora, as these terms are understood in this study, is that a parallel corpus consists of two languages (in the current case, Arabic and English, as English source texts and Arabic target texts will be compared), whereas a comparable corpus consists of only one language: in this case, Arabic (original Arabic texts will be compared to other texts translated into Arabic).

Marking-up the corpus follows building and compiling the texts. There are different strategies for marking-up, depending on the type and purpose of the corpus, as described in the following sections.

3.2.4 Marking up methods

For marking-up a corpus, there are three possible methods: ‘machine’, where the marking is performed entirely by a machine; ‘part machine’, performed by a machine and then post-edited by a human being; and ‘manual’, when the marking is performed by a human being.

3.2.4.1 The advantages of marking up the corpus

This facilitates the recall and extracting of information depending on the type of marking, and benefits researchers in analysing a language they are not necessarily familiar with. Marking-up a text also supports the researcher in performing tasks depending on their needs (Al Dakrori, 2018).

3.2.4.2 The disadvantages to marking up the corpus

- Marking-up corpora could result in mixing the marking with the plain text, which makes it difficult to read and analyse. This can be solved by placing the marking in the text margins in table form.
- Marking-up forces readers to see annotations of the texts that they do not necessarily want to see or are not necessarily looking for. To solve this, the text should have the option to show or hide the marking.
- Marking-up the text can quickly change from an added value to something that decreases the chances of updating, extending, and making the corpora available due to the effort, time, and expenses incurred.
- Marking-up can become imprecise and disorganised, leading to inadequate results, and it does not generally produce results that are 100% precise. However, this can be resolved by human post-editing after the machine marking-up (ibid).

3.2.4.3 Types of linguistic corpora marking

Linguistic corpora marking is important to keep in mind but was not used except where doing so would advance the research and help to answer the research questions. Annotating gives a corpus an added value. Wynne (2005) reports six types of annotation (aside from POS tagging). These are as follows: phonetic annotation, which provides information about how a certain word in a spoken corpus is pronounced; semantic annotation, concerning the semantic category of the word; pragmatic annotation, the kinds of speech act that occur in a spoken dialogue;

discourse annotation, concerning anaphoric links in texts; stylistic annotation, concerning speech and thought presentation; and finally lexical annotation, concerning the identity of the lemmas of words.

3.2.4.3.1 Part of speech (POS) tagging

Also called grammatical tagging or morpho-syntactic tagging, POS tagging is the process of assigning a morphosyntactic role to each word in a text and is hence considered a crucial step that significantly affects the subsequent natural language processing tasks (Algahtani, 2011:103). It is usually the first approach used to mark linguistic corpora and is the best known. This type of marking is necessary because it enables us to locate the passive in the English text and see how it was translated in the Arabic target text. Using an Arabic POS tagger at this stage was not necessary because once the English source text is aligned with the Arabic target text at the sentence level, the passive can be easily located manually (Al Dakrori, 2018:70). Moreover, POS tagging is easier in English, as Arabic is more morphologically challenging because of the absence of capitalisation of proper nouns and the phenomenon of clitic attachment. Clitics are unstressed words that occur only in combination with other words. Arabic has clitics attached to the beginning, end, or both sides of a word. They are segments that represent an independent syntactic role: primarily conjunctions, prepositions, and pronouns. Pronouns usually attach themselves to the end of the word, whereas prepositions and conjunctions are attached to the beginning (ibid).

Specialist software is not always necessary, and the corpus can be annotated using a general-purpose text editor or word processor (Wynne, 2005). That being said, there are some popular tools to speed up the annotation process:

- LancsBox software
- CLAWS tagger: recommended for the English language
- Buckwalter: recommended for the Arabic language
- WordSmith, MonoConc
- SARA, Xaira
- Template tagger
- The BNC
- Oxford WordSmith Tools 4.0

3.2.4.3.2 Lemmatisation

Lemmatisation works by returning the word to its basic form by deleting suffixes, prefixes, and so on. Nouns return to their singular form and verbs return to the singular, past, and masculine form. The Arabic language is known to be heavily inflected, and the application of lemmatisation helps when processing the texts.

3.2.4.3.3 Parsing

Parsing can be done by separating sentences and words in a manner similar to a tree shape, the result being known as ‘phrase structure trees’. Such trees form the sentences and words of the corpus and are called ‘tree banks’. Tree banks can involve either skeleton or detailed parsing. Skeleton parsing provides a shallow analysis, limited to what constitutes a sentence, while detailed parsing provides more detailed results.

3.2.4.3.4 Semantic annotation

This is also called ‘word-sense tagging’. It is important for studies related to the analysis of content. This type of annotation is knowledge-based and considered the most difficult type, as it requires pre-organised ontologies and dictionaries to perform its tasks. It is of at least two types: the first is concerned with identifying semantic relationships between the basic components of sentences within texts, while the other – which is more common – is concerned with identifying the semantic properties of the words in the text.

3.2.4.3.5 Anaphoric/conference annotation

This is used by some researchers at the level of discourse. Few corpora use this type of annotation, despite its importance. Mitkov, Belguith, and Malgorzata developed the only tool used to process Arabic texts in this category. This type of annotation reveals the relationship between two components in a text: the anaphor, which refers back to an antecedent (an earlier word or phrase), and the cataphor, which refers to a postcedent (later) word or phrase. Anaphoric annotation includes the following:

- pronoun linguistic referral
- lexical referral
- comparative linguistic referral

3.2.4.3.6 Pragmatic annotation

Pragmatic annotation is concerned with discourse, specifically the analysis of references, speech acts, structural relationships, rhetorical interdependence, and so on. Samy and González-Ledesma (2008) conducted a very useful study on pragmatic annotation of discourse markers in a multilingual corpus comprising Arabic, English, and Spanish texts.

3.2.4.3.7 Stylistic annotation

Stylistic annotation is concerned with the stylistic characteristics of literary texts. This includes the representativeness of speech and thought, words length, words' lexical characteristics, and so on. Texts are divided into categories: direct, free direct, indirect, and free indirect. Stylistic annotation is often performed manually as it is difficult for a machine to process.

3.2.4.3.8 Error tagging

Error tagging is used in corpus linguistics for English learners and for language teaching in general. It involves the use of special codes to note the types of linguistic errors in texts, revealing the most common mistakes made by language learners at different levels. The most common errors are usually deletion, addition, and poor formation. In Arabic, the most common errors are spoken, morphological, syntactic, and lexical errors, as well as spelling mistakes.

3.2.4.3.9 Problem-oriented annotation

Problem-oriented annotation is also called 'research-specific annotation'. Users add their own annotations to annotated or unannotated corpora to answer their research questions. It differs from the other types of annotation in two aspects:

- It is easier and less time-consuming because it is not necessary to provide annotations for every word and sentence. Anything that is not related or will not help in answering the research questions can be ignored.
- Users are not obliged to apply a specific framework. They have the freedom to choose the appropriate framework for their own goals and aims.

3.2.4.3.10 Standalone - embedded annotation

Standalone annotation addresses one of the disadvantages of annotation – namely, that it can become mixed up with the original documents. This method allows annotation to be displayed in isolation from any distortion caused by the check. Its other advantages include the following:

- It is not subject to legal constraints because the annotation is separated from the original texts.
- It accepts more than one type of annotation at a time.
- It allows editing and adding different levels of annotation, without creating problems for existing mark-up.

3.3 Methodology

3.3.1 Creating a corpus

Sin-wai (2004) reports that a corpus can comprise texts in electronic form, scanned documents, keyboarded materials, and transcriptions of spoken recordings and other materials.

3.3.1.1 Corpus design and acquisition

The essential criteria for corpus texts concern the following (Wynne, 2005): the mode of the text, the type of text, the domain of the texts, the language varieties of the corpus, the location of the texts, and the date of the texts. The requirements for the corpus in this study include the following (Baker, 1998; Biber, 2003; Olohan, 2004):

- Quality: translations should be done by professional translators or official institutions and not by machine. English/Arabic texts should be aligned very carefully and post-edited.
- Availability: the corpus should be easy to use, and access should not be restricted.
- Size: a corpus should be of a reasonable size, but a bigger corpus is not necessarily more useful than a smaller one.
- Balance: texts should not be limited to specialised texts or certain authors.
- Representativeness: the corpus should include texts that represent different uses of language and should not exclude certain styles or geographical locations.

Wynne (2005) reports that, for the corpus to be as representative as possible, the following steps should be taken:

- Pick and apply the structural criteria on which the corpus will be built.
- For each component, appoint a comprehensive inventory of text types.
- Arrange text types in priority order.
- For each text type, draw an estimate target size.
- Repeatedly/continually compare the original plan with the actual dimensions of the material.
- Record all the steps so that users have a reference point in case unexpected results are produced.

While both representativeness and balance may be ultimately undefinable and unattainable goals, they need to be borne in mind to direct the design of the corpus (*ibid*).

3.3.1.2 Text standards

Text samples from books were used rather than full texts, for two reasons (Olohan, 2004:56):

- to facilitate the obtaining of copyright permissions
- to include a wider range of authors and translators

Texts in a corpus should be authentic and available in electronic form for research purposes (Zanettin, 2012: 41). It is also important to use texts that were translated by professional translators or official institutions in order to guarantee their quality, insofar as this is possible.

All texts used for the corpora in this study belong to two time periods (1997-2000 and 2016-2018). The original texts were all written by Arab authors and published either online or in a hard-copy, and the translated texts were all translated by professional Arab translators. As for the text samples extracted from the scientific books, they were taken from random sections of the books, avoiding introductions, conclusions, and tables. They varied in size between 2-3 pages to match the size of the English and translated scientific articles. As for the texts extracted from the scientific articles, after obtaining copy-right permission from the online journals, the whole articles were used in the corpora. The articles varied in size, and the 1997-2000 translated articles were significantly larger than the 2016-2018 translated articles (see Tables 3.2, 3.3, 3.4 and 3.5).

3.3.1.3 Text genres

Some corpora are limited to a specific text type (e.g. newspaper articles), while some are limited to a specific subject domain (e.g. literature), and some texts are produced by specific groups of text producers. Text type, along with other design criteria, varies according to the purpose of the corpus (Zanettin, 2012: 41). Selecting specialised texts can be tricky, as it is almost impossible to choose a few specialised texts and claim that they are representative of the language in question. Specialised texts such as those found in medical and IT magazines do not necessarily represent the whole variety of popular magazines. This study used a specialised corpus because it was assumed that this would have a greater concentration of certain features than a general corpus (Wynne, 2005). In addition, no similar specialised corpus where the passive form is analysed over two different periods exists. Scientific articles were chosen because, in English, the passive is very common in scientific writing because of the field's impersonality. The passive gives an impression of objectivity and distances the writer from the statements made in the text (Baker 1992: 103). The selected samples represented

various forms of scientific text, and several differences in the employment of the passive were thus revealed.

3.3.1.3.1 The use of the passive voice in scientific writing

The use of the passive voice in writing has gone through periods of acceptance and use, followed by rejection and neglect. In one interesting paper written in 1981, Trammell (1981: 181-2) reports that many linguists in the 18th century opposed the introduction of the passive progressive. In addition, passive voice use has been described as ‘abnormal’ by some critics and purists. In fact, early scientific discourse prioritised the active voice, as Ding (cited in Alvin, 2014: 1) demonstrates in his corpora for the 18th century to the end of the 19th century.

Trammell (1981), however, advocates the use of the passive verb and describes it as essential and preferable to active voice, especially in technical writing. Decades later, a shift to the passive voice in the 20th century was prompted by growing expectations of objectivity in scientific discourse, with proponents arguing that writing should reflect the world itself, rather than the human beings involved in the world (Alvin, 2014: 1).

Back to the present, there is an ongoing shift in scientific writing, with calls for more author visibility. In a recent study, Inzunza (2020: 563) reports that many scientific disciplines in countries where English is the official language prefer the use of the active over the passive voice. Interestingly, in countries where English is the second language and in papers written by non-native English speakers, the passive remains very common. He notes that the use of passive voice in scientific writing limits clarity of communication and is old fashioned. However, there is of course no guarantee that the author of a paper is a native-speaking anglophone, even if they are living in an English-speaking country, so investigating this is challenging.

Similarly, in a corpus-based study, Banks (2017: 17) investigated the extent to which the passive voice was used in scientific articles published between 1985 and 2015. His corpus analysed 32 articles in the physical and biological sciences. The results show a reduction in the use of the passive voice, with first-person pronoun subjects, in the physical sciences, especially in articles written by more than one author. This has been accompanied by a corresponding rise in the use of the active voice. He notes that the increased use of the active voice, at the expense

of the passive voice, is intended to put greater emphasis on the author. According to Banks, this practice is likely to increase in the future.

Since this research uses both comparable and parallel corpora for two different periods, it was able to investigate this further using the data to identify whether the use of the English passive declined in the English scientific texts.

3.3.1.4 Sources of the texts

The following sections detail of the sources of the corpus texts.

3.3.1.4.1 Nature magazine

Nature is the leading weekly, international journal of the physical, chemical, applied sciences, and clinical medicine and was founded in 1869. The King Abdulaziz City for Science and Technology (KACST) signed an agreement of cooperation with the magazine publishers, and as a result, the magazine is translated into Arabic by a professional team. The Arabic version of the magazine is *Nature Middle East*⁷ and its articles are dated between 2010 and 2018. The content of the website is updated every other week, and the articles are free to access. See chapter three, Tables 2, 3, 4 and 5 for a detailed preview of the texts.

3.3.1.4.2 Scientific American

Scientific American is a science and technology magazine aimed at the general reader. It is the longest continuously published magazine in the United States. It was first published in 1845 and is available in 14 local languages, including Arabic, and is read in more than 30 countries. The article genres include science, cognition, health, technology, education, geography, and broadcasts.

Scientific American is translated into Arabic by two institutions. The first is *Lilelm*⁸ ‘for science’, which is published in Egypt and freely available online. The web content is updated on a daily basis, including both translated articles from *Scientific American* and original texts from Arab scientists and writers. However, it only includes articles translated after 2015.

⁷ <https://www.natureasia.com/ar/nmiddleeast/about>

⁸ <https://www.scientificamerican.com/Arabic/>

*Majallat Al-ooloom*⁹ ‘Sciences magazine’ is published by the Kuwait Foundation for the Advancement of Science in Kuwait. The website hosts only translated articles dated from 1995 to 2015, with no original Arabic pieces. To resolve this issue, articles from *Nature* were used alongside those from *Scientific American*.

The choice of these magazines was motivated by the fact that they represent the Arabic counterpart of *Scientific American*, and they publish translated articles in different scientific domains. The English and Arabic articles were collected electronically from the official websites of *Nature* and *Scientific American* (*Lilelm* and *Majallat Al-ooloom*). The number of English articles retrieved was determined by the number of available translated Arabic counterparts. The following tables provide a detailed preview of the articles/books.

Article title	Translators	Author	Date of publication	Number of English words	Number of Arabic words	Source	Link to article in English	Link to article in Arabic
1 Life's Far-Flung Raw Materials	غدير زيرفون - نزار الرئيس	Max P. Bernstei, Scott A. Sandford and Louis J. Allamandola	1999	4598	4219	Scientific American	https://www.nature.com/scientificamerican/journal/v281/n1/pdf/scientificamerican0799-42.pdf	http://ooloommagazine.com/Articles/ArticleDetails.aspx?ID=1210
2 Global Climate Change on Venus	محمد سليم - عبد الفتاح جلال	Mark A. Bullock and David H. Grinspoon	2000	5404	5075	Scientific American	https://www.nature.com/scientificamerican/journal/v280/n3/pdf/scientificamerican0399-50.pdf	http://ooloommagazine.com/Articles/ArticleDetails.aspx?ID=1188
3 Simon Newcomb: Astronomer with an Attitude	عطية عاشور - خضر الأحمد	Albert E. Moyer	1998	4349	3670	Scientific American	https://www.nature.com/scientificamerican/journal/v279/n4/pdf/scientificamerican1098-88.pdf	http://ooloommagazine.com/Articles/ArticleDetails.aspx?ID=1152
4 Preserving Nefertari's Legacy	نصري إسكندر - غسان حليوني	Neville Agnew and Shin Maekawa	1999	2700	2229	Scientific American	https://www.nature.com/scientificamerican/journal/v281/n4/pdf/scientificamerican1099-74.pdf	http://ooloommagazine.com/Articles/ArticleDetails.aspx?ID=1136
5 Why Go to Mars?		Glenn Zorpette	2000	2757	2671	Scientific American	https://www.nature.com/scientificamerican/journal/v282/n3/pdf/scientificamerican0300-40.pdf	http://ooloommagazine.com/Articles/ArticleDetails.aspx?ID=1410
6 How to Go to Mars		George Musser	2000	6209	5417	Scientific American	https://www.nature.com/scientificamerican/journal/v282/n3/pdf	http://ooloommagazine.com/Articles/ArticleDetails.aspx?ID=1406

⁹ <http://ooloommagazine.com/Articles/Archieve.aspx?YID=2>

								/scientificameri can0300-44.pdf	
7	SOHO Reveals the Secrets of the Sun		Kenneth R. Lang	1997	5002	3709	Scienti fic Americ an	https://www.nat ure.com/scientif icamerican/jour nal/v276/n3/pdf /scientificameri can0397-40.pdf	http://oloommaga zine.com/Articles /ArticleDetails.as px?ID=1194

Table 3.2. Translated scientific texts (1997-2000)

	Article title	Author	Date of publication	Number of English words (source text)	Number of Arabic words (target text)	Source	Link to article
1	Celestial Diamonds Offer Clarity on Protoplanets	Sedeer El-Showk	2018	512	458	Nature Middle East	https://www.nature asia.com/en/nmiddl east/article/10.103 8/nmiddleeast.2018 .50
2	New Hair Colour Genes Identified	Nadia El-Awady	2018	557	499	Nature Middle East	https://www.nature asia.com/en/nmiddl east/article/10.103 8/nmiddleeast.2018 .48
3	Oldest African Human Genomes Sequenced	Meredith Brand	2018	595	592	Nature Middle East	https://www.nature asia.com/en/nmiddl east/article/10.103 8/nmiddleeast.2018 .32
4	The Uae Sees Red	Kira Walker	2018	1273	1226	Nature Middle East	https://www.nature asia.com/en/nmiddl east/article/10.103 8/nmiddleeast.2018 .11
5	Interview: Unraveling Arabia's Green Past	Meredith Brand	2018	1072	948	Nature Middle East	https://www.nature asia.com/en/nmiddl east/article/10.103 8/nmiddleeast.2018 .44
6	First Human Fossil in Arabia Found	Meredith Brand	2018	1159	1002	Nature Middle East	https://www.nature asia.com/en/nmiddl east/article/10.103 8/nmiddleeast.2018 .43
7	Morocco Observatory Helps Find Worlds Not Marked in The Atlas	Sara Osman	2018	446	444	Nature Middle East	https://www.nature asia.com/en/nmiddl east/article/10.103 8/nmiddleeast.2018 .12
8	Sunlight- Harvesting Films Reveal Their Secrets	Biplab Das	2016	230	221	Nature Middle East	https://www.nature asia.com/en/nmiddl east/article/10.103 8/nmiddleeast.2016 .209
9	Sifting Through Cells Using Heat	Biplab Das	2016	269	244	Nature Middle East	https://www.nature asia.com/en/nmiddl east/article/10.103 8/nmiddleeast.2016 .213
11	Nearby Star Hosts Seven Planets that May Sustain Life	Sarah Hiddleston	2017	1241	1136	Nature Middle East	https://www.nature asia.com/en/nmiddl east/article/10.103 8/nmiddleeast.2017 .37

12	Molecular Clue to the Mystery of Carbon's Cosmic Origin Uncovered	Clara Moskowitz	2018	841	801	Lilelm - Scientific American	https://www.scientificamerican.com/article/molecular-clue-to-the-mystery-of-carbon-s-cosmic-origin-uncovered/
13	U.S. Poised to Launch Next-Generation Advanced Weather Satellite	Alexandra Witze	2016	547	627	Lilelm - Scientific American	https://www.scientificamerican.com/article/u-s-poised-to-launch-next-generation-advanced-weather-satellite/
14	Tangled Up in Spacetime	Clara Moskowitz	2016	2637	2285	Lilelm - Scientific American	https://www.scientificamerican.com/article/tangled-up-in-spacetime/
15	Plumes Spotted on Europa Suggest Easy Access to Water	Lee Billings	2016	439	472	Lilelm - Scientific American	https://www.scientificamerican.com/article/plumes-spotted-on-europa-suggest-easy-access-to-water/
16	Cassini at Saturn: A Retrospective	Carolyn Porco	2017	3507	3381	Lilelm - Scientific American	https://www.scientificamerican.com/article/cassini-at-saturn-a-retrospective/
17	A "Starshade" Could Help Nasa Find Other Earths Decades Ahead of Schedule	Lee Billings	2016	1094	1124	Lilelm - Scientific American	https://www.scientificamerican.com/article/a-starshade-could-help-nasa-find-other-earths-decades-ahead-of-schedule/
18	Gps and the World's First "Space War"	Larry Greenemeier	2016	1756	1803	Lilelm - Scientific American	https://www.scientificamerican.com/article/gps-and-the-world-s-first-space-war/
19	Controversial Fossil Hints Homo Sapiens Blazed a Trail Out of Africa Earlier Than Thought	Kate Wong	2018	1192	1177	Lilelm - Scientific American	https://www.scientificamerican.com/article/controversial-fossil-hints-homo-sapiens-blazed-a-trail-out-of-africa-earlier-than-thought/
20	Make a Black Hole	Science Buddies, Ben Finio	2017	1206	1077	Lilelm - Scientific American	https://www.scientificamerican.com/article/make-a-black-hole/

Table 3.3. Translated scientific texts (2016-2018)

Number	Title of the article	Title in English	Name of author	Date of publication	Number of words	Source
1.	ثبت علمياً	Scientifically Proven	محمد كامل عبد الصمد	1997	3443	Hard copy book

2.	بيكاسو... هل كان نحاساً؟	Picasso... Was her a sculptor?	سلوى النعيمي	2000	1889	Hard copy magazine
3.	هل ألعاب الفيديو خطر اجتماعي؟	Are games a social danger?	محمد حسن	2000	1961	Hard copy magazine
4.	الإسلامي والبعد البيئية	The environment and the Islamic dimension	د. فؤاد عبد اللطيف السرطاوي	1999	1218	Hard copy book
5.	العلوم والتقنية: الغابات (الأول الجزء)	Science and Technology – Forests Part one	د. تاج الدين حسين نصرود و د. لطفي ابراهيم الجبني	1999	4175	Hard copy magazine
6.	العلوم والتقنية: الغابات (الثاني الجزء)	Science and Technology – Forests Part two	د. عطا الله ابو الحسن	1999	4000	Hard copy magazine

Table 3.4. Original Arabic scientific texts (1997-2000)

Number	Title of the article	Title in English	Name of author	Date of publication	Number of words	Source	Link to article
1	سبعة كواكب جديدة شبيهة بالأرض	Seven New Earthlike Exoplanets	داليا عبد السلام، باكينام عامر	2017	1167	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/seven-new-earthlike-exoplanets/
2	أدلة جديدة على حياة محتملة على قمر زحل	New Evidence of Possible Life on Saturn Moon	محمد منصور	2018	1091	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/new-evidence-of-possible-life-on-saturn-moon/
3	مستوى سطح البحر يرتفع بوتيرة أسرع مما يُعتقد	Sea Level is Rising Faster than Believed	محمود العيسوي	2018	1262	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/sea-level-is-rising-faster-than-believed/
4	أنظمة الكواكب الخارجية تشبه حبات البازلاء في حرايبها	Planets in Kepler Multiplanet System are Like Peas in Pod	داليا العقاد	2018	936	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/planets-in-kepler-multiplanet-system-are-like-peas-in-pod/
5	كشف غموض الجانب المظلم لكوكب الزهرة	Venus Mysterious Night Side Revealed	محمد منصور	2017	1018	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/venus-mysterious-night-side-revealed/

6	عمر سمرة: "اجتذرت فترة الإعداد وفي انتظار لحظة الانطلاق للفضاء"	Omar Samra: I Have Passed the Preparation Period and Waiting for the Departure for Space	دينا درويش	2017	2612	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/omar-samra-i-have-passed-the-preparation-period-and-waiting-for-the-departure-for-space/
7	المسبار الأوروبي «سكيبارالي» في طريقه للمريخ	The European Probe Schiaparelli on his Way to Mars	محمد منصور	2016	1100	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/the-european-probe-schiaparelli-on-his-way-to-mars/
8	لا رابط قوي بين التصوير بالموجات فوق الصوتية قبل الولادة والتوحد	Researchers Find No Strong Link Between Prenatal Ultrasounds and Autism	دينا فاين مارون	2018	570	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/researchers-find-no-strong-link-between-prenatal-ultrasounds-and-autism/
9	تقنية مبتكرة تضفي على «الاصمغ الأبيض» خصائص ثورية	Innovative Technology Gives White Gum Revolutionary Properties	بقلم محمد منصور	2018	1186	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/innovative-technology-gives-white-gum-revolutionary-properties/
11	مُصنَّعة مُخلقة معملًا من خلايا جذعية للفئران	Blastocyst Like Structures Generated from Rats Stem Cells	بقلم محمد منصور	2018	1301	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/blastocyst-like-structures-generated-from-rats-stem-cells/
12	صغر حجم أدمغة "النياندرتال" تسبب في انقراضهم	Neanderthals Brains Hold Clues to their Disappearance	بقلم محمد منصور	2018	409	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/neanderthals-brains-hold-clues-to-their-disappearance/
13	الكشف عن جمجمة بقرة خضعت لجراحة قبل عام 5000	Evidence of Cranial Surgery in a Stone Age Cow	بقلم محمد منصور	2018	436	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/evidence-of-cranial-surgery-in-a-stone-age-cow/
14	رصد ولادة ميكرو لحضود مجريه مع بدايات الكون	Astronomers Witness Early Birth Galaxy Megamerger	شادي عبد الحافظ	2018	726	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/astronomers-witness-early-birth-galaxy-megamerger/

15	لا تلموا الهرمونات على سلوكيات المراهقين	Do not Blame Adolescent Social Behavior on Hormones	هناء المكاوي	2018	1007	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/do-not-blame-adolescent-social-behavior-on-hormones/
16	مضاد حيوي يخفض معدل وفيات الأطفال في أفريقيا بـ 25%	Common Antibiotic Reduces Child Mortality in Sub-Saharan Africa by 25 Percent	هيه حسين	2018	420	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/common-antibiotic-reduces-child-mortality-in-sub-saharan-africa-by-25-percent/
17	البيئة تؤثر في الخلايا المناعية للإنسان	Key differences in Young Older People Immune Cells Attributed to Environment	هيه حسين	2018	552	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/key-differences-in-young-older-people-immune-cells-attributed-to-environment/
18	الأمومة قد تقصر من عمر المرأة 11 عامًا	Birthhood May Shorten Life of Women Eleven Years	دينا درويش	2018	1189	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/birthhood-may-shorten-life-of-women-eleven-years/
19	الكالسيوم يكشف سر تشابه الأرض والقمر	Isotopic Evolution of the Protoplanetary Disk and the Building Blocks of Earth and the Moon	هيه حسين	2018	581	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/isotopic-evolution-of-the-protoplanetary-disk-and-the-building-blocks-of-earth-and-the-moon/
20	استخلاص مادة مقاومة لسرطان القولون من «خبز الذب»	Extraction of a Substance Resistant to Colon Cancer from Bear Bread	داليا العقاد	2018	920	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/extraction-of-a-substance-resistant-to-colon-cancer-from-bear-bread/
21	طريقة أسرع وأكثر أمنًا لمياه خالية من الكروم	Faster and Safer Technique to Get Water Free Chrome	حازم بدر	2018	780	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/faster-and-safer-technique-to-get-water-free-chrome/
22	تقليل السرعات الحرارية يبطئ أمراض الشيخوخة	Metabolic Slowing and Reduced Oxidative Damage with Sustained Caloric	هيه حسين	2018	580	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/metabolic-slowng-and-reduced-oxidative-damage-with-sustained-caloric/

23	البطاريات الفاصلة»..قفزة أخرى جديدة إلى الأمام	No Secret Chambers Behind the Walls of the- Tomb of Tutankhamun in Luxor	محمد السنياطي	2018	1096	Lilelm - Scientific American	https://www.scientificamerican.com/Arabic/articles/news/no-secret-chambers-behind-the-walls-of-the-tomb-of-tutankhamun-in-luxor/
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Table 3.5. Original Arabic scientific texts (2016-2018)

Parallel corpus	
1997 – 2000 English scientific articles →	1997 – 2002 Arabic translated scientific articles
2016 – 2018 English scientific articles →	2016 – 2018 Arabic translated scientific articles

Table 3.6 details the structure and focus of the parallel corpora, which compared texts in two languages.

Comparable corpus	
1997-2000 Original texts →	1997-2000 Translated texts
2016-2018 Original texts →	2016-2018 Translated texts
1997-2000 Original texts →	2016-2018 Original texts
1997-2000 Translated texts →	2016-2018 Translated texts

Table 3.7 details the structure and focus of the comparable corpora, which compared texts in the same language.

3.3.1.5 Data size

The size of a corpus varies depending on the purpose for which it was designed ([Zanettin, 2012: 41](#)), the methodology used, and the kinds of user queries anticipated ([Wynne, 2005](#)). The sizes of translation-driven corpora can vary from 1,000 to 100,000 words (for specialised corpora), up to several hundred million words for very large parallel corpora ([Zanettin, 2012: 43](#)). It is often claimed that the size of the corpus is a decisive factor in the reliability of the corpus findings, primarily because statistical considerations play an important role when making generalisations about any particular aspect of language ([Zanettin, 2012: 42](#)). That being said, a smaller corpus can be suitable for the study of grammar ([Olohan, 2004: 46](#)). A larger corpus of complete texts would have been preferred, had there been no practical restrictions – such as the need for manual annotation and the availability of suitable texts. The following table details the numbers of words in each corpus.

	1997-2000	2016-2018
Parallel corpus	31,019 words for the English ST	20,573 words for the English ST
	26,990 words for the Arabic TT For the ST and TT combined, there are 58,009 words	19,517 words for the Arabic TT For the ST and TT combined, there are 40,090 words
Comparable corpus	16,686 Arabic words	20,939 Arabic words
Total number of words	135,724 words	

Table 3.8 shows the number of words in each sub-corpus.

3.3.1.6 Processing the corpus

After compiling and gathering the texts to be used for the corpora, the next step was to extract the data to process and mark the texts. For technical and practical reasons, the parallel corpus was compiled and processed first, followed by the comparable corpus.

To process the texts, it was necessary to ensure that they were machine readable. As some were in hard copy, an optical character recognition (OCR) was chosen. The key issue here was that most software is limited to a certain style or specific language. Scans of handwritten texts can also prove difficult for the software to recognise. This, however, was resolved by post-editing of the texts. The paper-based texts in this research (i.e., the 1997–2000 original texts) were converted to an editable format using the Fine Reader (ABBYY) software.

The Fine Reader software is an award-winning technology that combines OCR with conversion techniques by converting paper-based texts to pdf files. Instead of necessitating the retyping of hard-copy texts, this software has a simple approach that allows for digitising and accessing information previously locked in paper documents. It recognises over 190 languages and claims to have over 99.8% accuracy and precise retention of formatting and layout. It enables users to edit and comment on pdfs, covert pdfs and scans, compare documents, and automate conversions.

3.3.1.7 Copyright

Copyright is a very sensitive subject, as fears about piracy and the exploitation of materials for profit puts additional strain on corpus builders. The need to obtain permissions and copyrights for corpus-building has been addressed by corpus linguists, but no solution has yet been found. This issue is particularly challenging because different countries have different copyright laws (Grigaliūnienė, 2013: 27). In the current study, to avoid copyright issues, no full texts of published books (in the 1997-2000 original corpus) were added to the corpora; instead, only samples were used. Each sample was approximately two pages (the number of words is in Tables 3.2, 3.3, 3.4, and 3.5). Full articles were used for the rest of the corpora (1997-2000 and 2016-2018 parallel corpora, and 2016-2018 original corpus). Moreover, the *Scientific American* and *Nature* websites were informed that their articles would be used for research purposes only.

3.3.2 Building a parallel corpus

To build a parallel corpus, the following steps were taken.

1. Texts in the required genre (i.e., scientific articles) were acquired online from well-established official websites, along with their professionally translated Arabic equivalents.
2. Initially, all texts were in pdf format. These were then converted to doc format online and converted to txt using the software Notepad ++.
3. The software TextMate was used to convert all Arabic articles into txt format, as Notepad ++ cannot convert Arabic texts (see table 3.9).
4. Notepad ++ was used with all texts to divide and split the lines and to remove empty lines.
5. All scientific articles dated 1997–2000 were aligned manually by placing the Arabic and English articles documents side-by-side, with the paragraphs then arranged to be in the same order. This was followed by the use of LF Aligner software.
6. The software LF Aligner was used to manually align all Arabic and English articles.

These steps are discussed further in the section below.

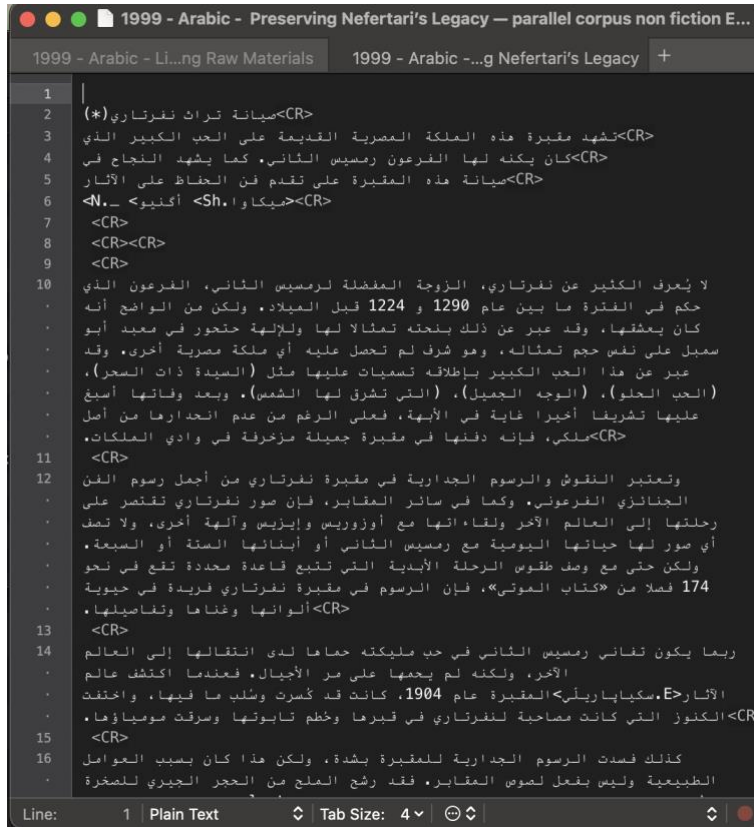


Table 3.9 the software TextMate was used to convert Arabic articles into txt format.

It is important to mention that the number of scientific English articles dated 1997–2000 was significantly smaller (7 articles) than the number of English and Arabic scientific articles dated 2016–2018 (19 articles). This was because it proved difficult to locate the former, especially online and with the required standards. This was not a problem, however, as the 1997–2000 articles are noticeably longer (31,019 words) than the 2016–2018 articles (20,573 words).

Various issues arose when manually aligning the texts using LF Aligner software. These are detailed below, along with their solutions:

- The English and Arabic articles dated 1997–2000 were published in magazine format. This meant that they all included pictures and a number of columns on each page. In addition, the arrangement of the texts and photos in the English articles was very different to that in the Arabic texts. However, this was not the case for the articles published 2016–2018. Instead, these articles were similar in structure and format. To resolve this, the articles were aligned side-by-side by paragraph and then divided, the lines were split using Notepad ++, and then the aligner tool was used.

- The translations did not entirely match the source texts. The English and Arabic articles occasionally had additional paragraphs or structures that had no equivalent in the corresponding text in the other language. These structures without counterparts were descriptions of the pictures in the English texts that did not appear at the exact location in the Arabic articles. In addition, some Arabic articles had additional paragraphs with more explanation (e.g., the article *The First Human Fossil Found in Arabia*). These lines/paragraphs were left with no equivalents during the aligning process, and passive verbs found in these paragraphs were not used or included in the total count.

3.3.2.1 Software used

The software used is discussed in the following sections.

3.3.2.1.1 LF Aligner software

LF Aligner was released free in 2011. The software helps users to create translation memories between source and target texts and to align texts in two or more languages. It was chosen for the current study because of its simplicity and because it can deal with Arabic texts. Other potential alignment software was disqualified due to its inability to deal with Arabic text. Upon completion of the alignment, the software also converts the file into TMX format and an Excel sheet, which makes it possible to build a corpus with the files. TMX is defined as follows:

A file created in the Translation Memory Exchange (TMX) format, an open XML standard used for exchanging translation memory (TM) data created by Computer-Aided Translation (CAT) and localisation applications. It may be used to save words or phrases that have been translated from one language to another. Programs that use this file format include Maxprograms Swordfish, OmegaT, SDL Trados Studio and AIT Visual Localize¹⁰.

When both English and Arabic articles are uploaded to the software, they appear side-by-side. The texts are not divided sentence-by-sentence or depending on the beginning and ending, but randomly. Each line in the software could start and end in the middle of the structure. To resolve this, the structures must be aligned manually by splitting or merging the structures. Dividing the Arabic structures was challenging because the software was not explicitly developed for Arabic texts. In addition, capitalisation does not exist in Arabic; hence, the

¹⁰ <https://www.reviversoft.com/en/file-extensions/tmx>

software does not recognise when the structure starts. Splitting a sentence immediately after a full stop does not mean that it will be divided correctly. Sentence division is done almost at random. This problem does not arise in English texts. To resolve this, each Arabic sentence was divided using LF Aligner tools in a few different places to identify the best division that included a full meaning and then to align that with the English equivalent (see Table 3.10). (The use of the word ‘sentence’ is discussed in detail [in the following chapter](#).)

The articles used for the corpora included additional information that did not serve the purpose of this research – such as descriptions of pictures, information about the author, bibliographies, references to other articles, advertisements, publishing information, and links to other articles and works. All of this was thus cleared from the aligned texts.

7		8		9	
Nor do they know why this magnetism is concentrated into so-called sunspots, dark islands on the sun's surface that are as large as the earth and thousands of times more magnetic.	كذلك فإنهم لا يعرفون سبب تركيز هذه المغنطيسية فيما يسمى بالبقع الشمسية sunspots، وهي جزر مظلمة تقع على سطح الشمس حجم كل منها يقارب حجم كرتنا الأرضية، ونشاطها المغنطيسي يفوق آلاف المرات نشاط الحقل المغنطيسي للأرض.	The spacecraft reached its permanent strategic position which is called the inner Lagrangian point and is about 1 percent of the way to the sun—on February 14, 1996.	وفي 14/2/1996 بلغت هذه السفينة الفضائية موقعها الاستراتيجي الدائم - الذي يسمى نقطة لاگرانج الداخلية	There SOHO is balanced between the pull of the earth's gravity and the sun's gravity and so orbits the sun together with the earth.	وفي هذا الموقع تكون سوهو متوازنة بين جذب ثقالة الأرض وثقالة الشمس.

Table 3.10 shows LF Aligner tool used to align the English texts and their translations.

3.3.2.1.2 LancsBox

LancsBox is easy-to-use software developed at Lancaster University for analysing language data and developing corpora. Its features include the ability to build a corpus, easy to use by a different variety of people interested in language, the ability to analyse almost all languages, and provision data POS annotation.

LancsBox was used to generate reports about the English articles, identifying all the passive structures used in the scientific articles. The problem with this software, however, is that it could only reveal the passive structures used in the English texts. It did not have the ability to identify the passive in the Arabic articles. In addition, it could not indicate the number of the sentence (structures were previously divided using LF Aligner). Unfortunately, the software could not be used exclusively to build the parallel corpus.

Parts of two corpora were built using LancsBox. One was of the English scientific articles written between 1997–2000 and the other comprised those written between 2016–2018. The software looked for all passive structures in the texts and generated a report. As noted, the software could not identify the passive Arabic voice, but because all the English structures were aligned with their Arabic translations (the Arabic equivalents of the English passive), the Arabic passives could also be identified via manual search.

The 1997–2000 parallel corpus of scientific articles comprised 58,009 words. Some paragraphs in the English texts were not translated into Arabic. This resulted in passive structures that did not have an Arabic equivalent. These were deleted and removed from the verb count. The software retrieved 140 passive forms that were found in all seven texts. The software counted each passive sentence as one passive entry, even when a sentence included more than one passive verb. When counted manually, further passive verbs were identified, bringing the total to 148 (477 per 100k).

Filename	Left	Node	Right
2000 - English - How to Go to Mars- 2000 - Arabic - How to go to Mars.xls	way to get to Mars	is called	a Hohmann transfer. فيما يتعلق
1997 - English - SOHO Reveals the Secrets of the Sun-2- 1997 - Arabic - SOHO Reveals the Secrets of the Sun.xls	the regions where the corona	is heated	and the solar wind accelerates.
1998 - Simon Newcomb- Astronomer with an Attitude	method. These contentions, of course,	were not universally accepted.	وكان يلمح إلى أن حججه
1999 Preserving Nefertari's Legacy	mixed in; wheat straw had	been used	to reinforce it and to
1999 Preserving Nefertari's Legacy	in 1904, it had already	been broken	into and looted. The treasures
1997 SOHO Reveals the Secrets of the Sun	Sun-2 Some of its instruments	are now poised	to resolve several other mysteries.
1998 Simon Newcomb- Astronomer with an Attitude	Although this 19th-century astronomer	is not well known	today, in the decades following
1999 Preserving Nefertari's Legacy	start anew once the work	was finished.	فلم يكن الأمر يتعلق فقط
2000 Global Climate Change on Venus	on how much of it	is caused	by the burning of fossil
1999 - Lifes Far-Flung Raw Materials	a chunk of Earth that	was blown	off in a collision with

Table 3.11 provides a sample of the passive structures retrieved from the 1997–2000 parallel corpus using LancsBox. The Arabic text in the right-hand column reveals how the Arabic structures were connected with the English passive structures. Not all the structures, however, are shown, and manual work was required to analyse both the English and Arabic structures.

Filename	Left	Node	Right
2017 - Cassini at Saturn- A Retrospective	pattern. In others, where moons	are embedded	in the rings, gravity has
2018 - New hair colour genes identified	the building blocks of DNA,	were found	to be responsible for about
ECONTR~1.XLS	years ago—long before H. sapiens	is known	to have appeared on the
2018 - The UAE sees red	disclosed once the project has	been completed.	لاستكشاف المريخ يعمل في ظل
2017 - Cassini at Saturn- A Retrospective	Saturn- A Retrospective So we	were thrilled	to greet one such storm
2016- Plumes Spotted on Europa Suggest Easy Access to Water	Georgia Institute of Technology and	was not involved	with the research. وتعلق بريتي
2018 - New hair colour genes identified-2018 - Arabic - New hair colour genes identified.xls	Only 13 of these had	been previously identified.	جينوماتهم، حددوا 124 جينًا مرتبطًا
2018 - Molecular Clue to the Mystery of Carbon_s Cosmic Origin Uncovered	Cosmic Origin Uncovered only occasionally	being cracked	open by extremely high-energy photons.
ECONTR~1.XLS	notes Levallois-like stone tools have	been found	at sites in Africa dating
2018 - Molecular Clue to the Mystery of Carbon_s Cosmic Origin Uncovered	University in the Netherlands who	was not involved	in the research. ويعلق ألكساندر

Table 3.12 provides a sample of the passive structures retrieved from the 2016–2018 parallel corpus using LancsBox. This parallel corpus comprised 40,090 words. The passive occurred 109 times, slightly more than in the 1997–2000 corpus. As with the first corpus, the software counted per passive structures as one passive entry, even when a structure included more than one passive verb. When counted manually, further passive forms were identified, bringing the total to 123 (597 per 100k) and in all 18 texts. The passive structure appeared more often in the 2016–2018 corpus (597 per 100,000) than in the 1997–2000 corpus (477 per 100,000). In addition, though the selected scientific articles were written on similar topics, the modern articles were noticeably shorter than their predecessors.

	Parallel Corpora				Comparable Corpora	
	1997-2000 - English corpus	1997-2000 - Translated corpus	2016-2018 - English corpus	2016-2018 - Translated corpus	1997-2000 - Original corpus	2016-2018 - Original corpus
Total number of words	31,019	26,990	20,573	19,517	16,686	20,939
Number of passive forms	148	61	123	52	119	124
Occurrence of passive forms per 100,000 words	477.126922	226.009633	597.870996	266.434391	713.17272	592.19638
Percentage of passive forms	0.477%	0.226%	0.598%	0.266%	0.713%	0.592%

Table 3.13 details the total number of words in each corpus, the numbers of passive forms, the passive as a percentage of each corpus, and the number of times the passive occurred per 100,000 words.

3.3.2.1.3 Sketch Engine

Sketch Engine software facilitates the exploration of language and how it works. It makes it possible to identify what is typical and what is not in a language. It was developed for text-mining applications and text analysis and can be used by anyone interested in language. It provides a representative sample of language, including approximately 500 corpora in more than 90 languages. The software presents the results in different forms, including word sketches, concordances, and word lists.

Sketch Engine was selected to build a part of the corpus. It is Arabic-language friendly, but it has no feature for revealing the use of the passive voice in Arabic or English texts. It does, however, allow for the use of POS taggers. Moreover, it can reveal all structures in the articles containing a past participle. As Sketch Engine does not automatically identify passives, the

LancsBox reports were used to manually find the English passives, which were connected to their Arabic equivalents.

This software was also chosen for its concordance feature. Each file was used to build an individual corpus (see Table 3.14), and the concordance feature was used to retrieve the number of occurrences of different features of the texts. For this to work, four sub-corpora were built: a 1997-2000 translated Arabic scientific texts corpus, a 2016-2018 translated Arabic scientific texts corpus, a 1997-2000 original Arabic scientific texts corpus, and a 2016-2018 original Arabic scientific texts corpus. Two of these were single-language corpora, and two were bilingual. Each corpus consisted of a table that included specific information related to the scientific articles. For example, the single-language tables included the title of the article, the passive sentence, the category of the passive verb (e.g., Measure I), the number of passive verbs occurring in the article, the number of words in the article, and whether the passive was agentless or agentive. (See chapter four: [Tables 1](#), and [3](#).)

The screenshot displays the Sketch Engine interface. On the left, a sidebar titled "1997 - 2000 - ORIGINAL PASSIVE SENTENCES" contains various analysis tools: Word Sketch (Collocations and word combinations), Word Sketch Difference (Compare collocations of two words), Thesaurus (Synonyms and similar words), Concordance (Examples of use in context), Parallel Concordance (Translation search), Wordlist (Frequency list), N-grams (Multiword expressions (MWEs)), Keywords (Terminology extraction), Trends (Diachronic analysis, neologisms), Text type analysis (Statistics of the whole corpus), OneClick Dictionary (Automatic dictionary drafting), and Bilingual terms (Bilingual terminology extraction). On the right, a "RECENTLY USED CORPORA" section shows a list with one entry: "1997 - 2000 - original PASSIVE sentences" in English with 1,683 items. Below this is a "boot camp" advertisement for an online course in using Sketch Engine, with a "REGISTRATION" button.

Table 3.14 shows the features that can be used in Sketch Engine. The right side shows the 1997-2000 original sub-corpus, which was uploaded into the software.

Table 3.15 shows the concordance tool, which was used in this research to retrieve the number of occurrences of the passive tense and measure.

Details	Left context	KWIC	Right context
1	doc#0 Imperfect passive - Form I يُضاف الى المزيج سكر بلوري ابيض	Imperfect passive - Form IV	Imperfect passive - Form X الاستذكار وبعد المزج تُستخدم جرعة واحدة فقط
2	doc#0 ويُعجر Imperfect passive - Form I ثم يوصى المريض بالانطمار عليه	Imperfect passive - Form IV	Imperfect passive - Form I DEFECTIVE ROOTS: حيث تُثنى إحدى الرجلين بشكل كامل
3	doc#0 'ECTIVE ROOTS: yu-ffiaa أجريت مؤخرا	Perfect passive - Form IV	Imperfect passive - Form I GEMINATE ROOTS: yu-faffi-i
4	doc#0 rm I GEMINATE ROOTS: yu-faffi-u الثامن	Perfect passive - Form IV	Imperfect passive - Form IV تضع الهااتف Imperf
5	doc#0 التي اجري Perfect passive - Form IV	Imperfect passive - Form IV	Imperfect passive - Form X 4 الياة في الياة

Table 3.16 shows the number of passive measures that belong to Form IV in the 1997-2000 original corpus.

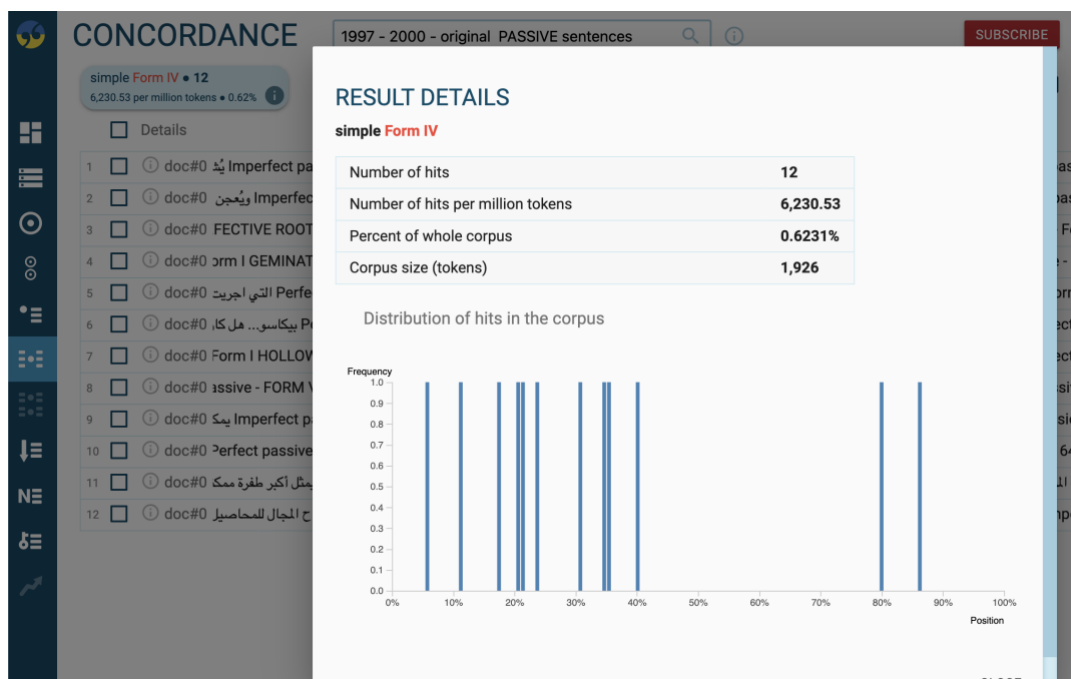


Table 3.17 shows the result details for Form IV search in the 1997-2000 original corpus.

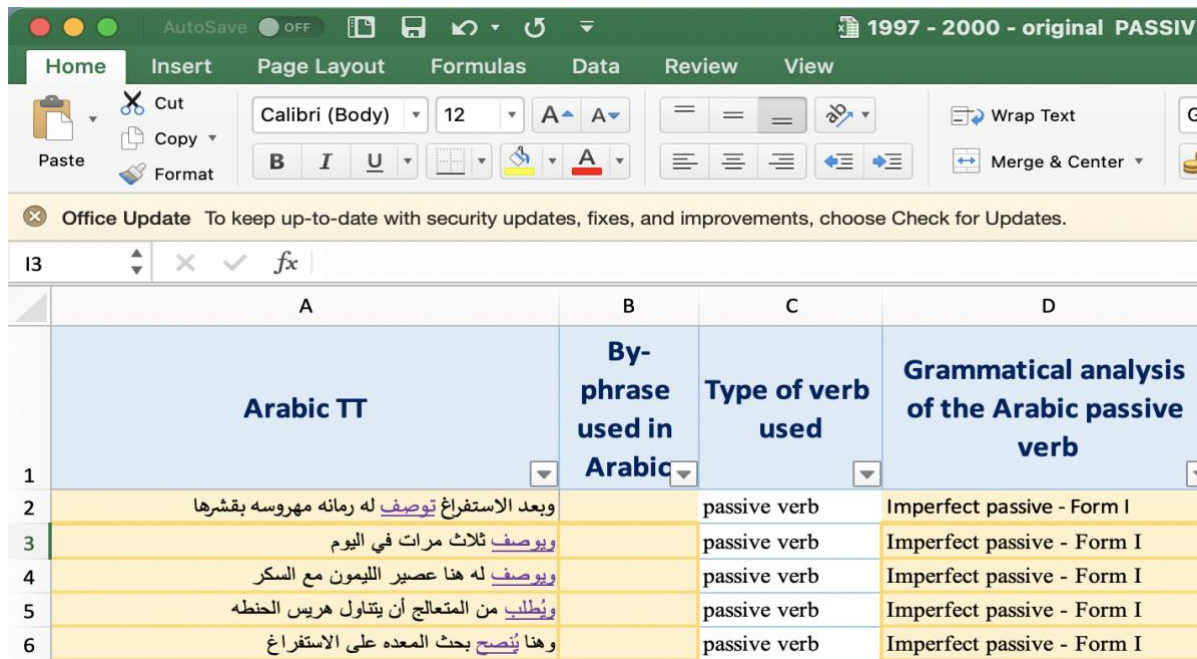
The bilingual Arabic-translated tables included the English passive structure, its Arabic translation, and the strategy used to translate the English passive verb. The strategies included translating the passive with a passive, or an active. The tables also included the category of the passive verb (e.g., Measure I). (See chapter four: Tables 2, and 4.)

To summarise, this chapter is divided into two main parts: the theoretical framework and methodology. The theoretical framework provides a background to the notion of corpus. This includes its definition, why this method is preferred, its uses, and advantages and disadvantages. This is followed by the types of corpora in translation studies, namely parallel, multilingual, and comparable, and their advantages and disadvantages. Next, a review of the available English/Arabic corpora is provided and followed by corpora marking-up methods.

The second part focuses on the corpora used in this thesis, namely parallel and comparable. The steps of making a corpus, and the requirements, which include text standards, text genre, sources, and a review of the texts used, are described. This is followed by the data size, the tools and software used to process each corpus.

3.3.2.1.4 Microsoft Excel

Excel was used to organise and divide the data, to generate percentages, to provide high-level visual summaries, and to analyse each corpus. Each corpus was divided into different sections. See immediately below. Excel was also used for the data analysis results comparisons (see tables in section 4.3).



The screenshot shows a Microsoft Excel spreadsheet titled "1997 - 2000 - original PASSIV". The spreadsheet has four columns: A (Arabic TT), B (By-phrase used in Arabic), C (Type of verb used), and D (Grammatical analysis of the Arabic passive verb). The data is as follows:

	A	B	C	D
	Arabic TT	By-phrase used in Arabic	Type of verb used	Grammatical analysis of the Arabic passive verb
1				
2	وبعد الاستفراغ <u>توصف</u> له رمانه مهروسه بقشرها		passive verb	Imperfect passive - Form I
3	<u>ويوصف</u> ثلاث مرات في اليوم		passive verb	Imperfect passive - Form I
4	<u>ويوصف</u> له هنا عصير الليمون مع السكر		passive verb	Imperfect passive - Form I
5	<u>ويطلب</u> من المتعالج أن يتناول هريس الحنطة		passive verb	Imperfect passive - Form I
6	وهنا <u>يُنصح</u> ببحث المعدة على الاستفراغ		passive verb	Imperfect passive - Form I

Table 3.18 outlines the 1997-2000 original passive structures. The passive forms were retrieved from the original texts, and then analysed in the Excel sheet manually.

	A	B	C	D
1	Arabic TT	By-phrase	Type of verb used	Grammatical analysis of the Arabic passive verb
2	فنظام الإشارة الذي يعول عليه لنقل بيانات مُستقاة من كوكب المريخ		passive verb	Imperfect passive - Form II
3	ويُعد برنامج «إكسومارس» الفضائي		passive verb	Imperfect passive - Form I
4	قد وُجِدَت في أي وقت مضى على سطح المريخ		passive verb	Perfect passive - Form I
5	الالتزام بالوعود التي قُطعت بالفعل داخل الاتحاد الأوروبي		passive verb	Perfect passive - Form I

Table 3.19 outlines the 2016-2018 original passive structures. The passive forms were retrieved from the original texts, and then analysed in the Excel sheet manually.

	A	B	C	D	E	F	G
1	English ST	By-phrase used in English	Arabic TT	By-phrase used in Arabic	Type of verb used to translate the English passive verb (Active - Passive form)	Specific procedure used	Grammatical analysis of the Arabic passive verb
1	Nor do they know why this magnetism is concentrated into so-called sunspots, dark islands on the sun's surface that are as large as the earth and thousands of times more magnetic.		كذلك فإنهم لا يعرفون لماذا يتركز هذا المغناطيسية فيما يسمى بالنقع الشمسية (sunspots) وهي جزر مظلمة تقع على سطح الشمس حجم كل منها يعادل حجم كوكب الأرض وتنتابها المغناطيسية بقوة آلاف المرات تقاطع الحقل المغناطيسي للأرض.		Translating the passive form into an active form	نكرة "تركز"	Noun phrase with a verbal noun. "why this magnetism is concentrated" is translated as a noun phrase تركيز
2	The spacecraft reached its permanent strategic position—which is called the inner Lagrangian point and is about 1 percent of the way to the sun—on February 14, 1996.		في 14/2/1996 وصلت هذه المركبة الفضائية بوضعها الاستراتيجي الدائم، الذي يسمى النقطة لاگرانج الداخلية.		Translating the passive form into a passive form	Passive verb	Form II - Imperfect passive
3	These SOHO is balanced between the pull of the earth's gravity and the sun's gravity and so orbits the sun together with the earth.		تدور هذا الموقع تكون سوو هو بين جاذب قنالة الأرض وقنالة الشمس.		Translating the passive form into an active form	Active participle with active meaning "تدور"	Form VI - active participle
4	To understand the sun's cycles, we must look deep inside the star, to where its magnetism is generated.		إذا ما أردنا فهم الدورات الشمسية علينا أن نلتم النظر في الأعوارها الجوهريّة.		Translating the passive form into an active form	Active verb with active meaning	

Table 3.20 outlines the 1997-2000 translated passive structures. The text analysis in the 1997-2000 translated corpus is done manually. However, LancsBox software was used to identify the passive forms, and LF Aligner software was used for the text alignment.

	A	B	C	D	E	F	G
	English ST	By-phrase used in English	Arabic TT	By-phrase used in Arabic	Type of verb used to translate the English passive verb (Active - Passive form)	Specific procedure used	Grammatical analysis of the Arabic passive verb
1	But this is a first where their thermal characteristics were used as indicators to separate healthy cells from diseased ones.		لكن هذه هي المرة الأولى التي استُعمل فيها خصائصها الحرارية كمؤشرات لفصل الخلايا السليمة عن تلك المريضة.		Translating the passive form into a passive form	Passive verb	Form X - Imperfect passive
2	When the living cell was swapped with breast and cervical cancer cells in the lab, the nanomembrane similarly revealed their		عندما استُبدلت بالخلايا الحية خلايا سرطان الثدي وسرطان عنق الرحم في المختبر، كشف الغشاء النانوي بطريقة مماثلة		Translating the passive form into a passive form	Passive verb	Form X - Perfect passive
3	and electronic properties of pure crystalline perovskite films that are made of methylammonium lead iodide.		المجهرية للخصائص البصرية والإلكترونية لرقائق البيروفسكايت الثورية الفلزية المصنوعة من ميثان أمونيوم يود الرصاص. 2016-		Translating the passive form into a passive form	Passive participle المصنوعة	This is in fact a Form I passive participle. So, I think you can say that the English active verb is not translated with a verb (rather it is translated with a participle – a kind of adjective), but that it is translated with a passive.
4	These films have low number of traps, which are usually generated due to impurities and defects in materials. Such traps can capture mobile electrons,		تملك هذه الرقائق عددا قليلا من الفخاخ، التي تنشأ عادة بسبب الشوائب وعيوب المواد. ويمكن لهذه الفخاخ أن		Translating the passive form into an active form	Nominal phrase التي followed by a verb تنتج	Form I

Table 3.21 outlines the 2016-2018 translated passive structures. The text analysis in the 2016-2018 translated corpus is done manually. However, LancsBox software was used to identify the passive forms, and LF Aligner software was used for the text alignment.

	comparable corpora		parallel corpora	
	1997 - 2000 - original corpus	2016 - 2018 - translated corpus	1997 - 2000 - translated corpus	2016-2018 - translated corpus
Arabic words	Arabic words	Arabic words	English Words	Arabic words
3443	1147	4218	4598	512
1889	1091	8075	5404	557
1961	1242	3679	4349	595
1218	936	2229	2700	1273
4175	1818	2471	2797	1072
4000	2412	8417	6209	1159
1180	3709	5062	446	44
576			230	22
1186			209	24
1201			124	113
409			843	80
436			947	62
726			2637	228
1007			439	47
420			3087	338
552			1094	112
1189			1756	180
581			1192	117
920			1206	197
786				
280				
1094				
16686	20939	26990	31019	20573
19511				
58009				40090
total		135724		

Table 3.22 shows one of the tables used in section 4.3. After conducting the text analysis, Excel was used to generate percentages and make calculations for the data results.

Chapter Four

Analysis and Discussion

Research questions

To begin this chapter, it is appropriate to restate the research questions that this thesis has attempted to answer:

1. In what ways has English affected the structure of the passive voice in scientific texts translated from English to Arabic?
2. In what ways has English translation encouraged the employment of English passive voice structures in non-translated (original) Arabic scientific texts?

4.1 The Parallel Corpora Results

As explained previously, LanksBox was used to retrieve the passive structures from the pre-aligned English and Arabic texts. For this purpose, the software was adjusted to show about 35 words before and after the passive form. This allows the Arabic structures aligned to the English structure to show as well. This, however, did not give accurate results. The structures were saved as txt files and copied into a document text, where they were manually cleared and organised. Finally, both the English and Arabic passives were underlined and manually analysed into Excel sheets. (See full version of the sheets in chapter four: [Tables 1, 2, 3, and 4.](#))

The term ‘clause’ was preferred because it is considered the English equivalent of the Arabic *جملة jumla* ‘sentence’ (Dickins, 2020: 63). The use of the word ‘sentence’ was intentionally avoided because it is challenging to find a definition that cover all the aspects for both Arabic and English. In short, a sentence is not always a simple sequence of words. Dickins (2010: 1078-1080) provides three definitions, each with its own focus: grammatical, semantic, and intonational or punctuational. Dickins then combines the grammatical, semantic, and intonational systems into one definition, suggesting a sentence is a unit that consists of a

proposition-based grammatical structure, while its intonational features comprise an independent entity, with a start and a finish.

Dickins (ibid) explains that, in English, the common ways of identifying a ‘punctuational sentence’ are a full-stop at the end and a capital letter at the beginning. Since capital letters do not exist in Arabic – and full stops are not a reliable means of indicating the end of what is thought to be a sentence – he suggests one workaround: namely, to have native Arabic speakers read the text aloud. This, unfortunately, was not appropriate for the investigation of this parallel corpus.

The Arabic language structure is more flexible than English, as explained previously, and it is acceptable for written structures to start with a *wa* ‘and’. In spoken Arabic, it is also common to start a separate intonational sentence with this. Some might argue that it is unacceptable to begin an English sentence with ‘and’, but this is an old rule. In writing, though rare, it is acceptable to begin a sentence with a coordinating conjunction for various purposes – such as, separating the clause that begins the sentence from the previous one, directing attention to one clause’s relationship with a previous clause, and so on. In informal speech, it is also normal to begin an intonational sentence with ‘and’. Dickins (2020: 14-18) defines an ‘intonational sentence’ as a sentence comprising one or more tone units, with the last of these units having a ‘final’ (as opposed to a ‘non-final’) intonation pattern.

Dickins (2020: 63) identifies two basic types of clauses: *jumla fiʿliyya* ‘verbal clause’, and *jumla ismiyya* ‘nominal clause’. In traditional Arabic grammar, the verbal clause or sentence starts with a verb. The Arabic verbal clause is flexible and is considered acceptable without the mention of an explicit subject or an object. The nominal clause or sentence has two components: the predicand, which literally means ‘what begun with it’, and predicate, which literally means ‘piece of news’. The predicand begins with a noun, noun phrase, an adjective, etc. The predicate may be a noun, a noun phrase, an adjective, an adjective phrase, verb, a verb phrase, etc. (This will be covered in further detail in section 4.1.1.2.)

In English, a sentence structure is comprised of up to five elements, according to Quirk, et al. (1973:10): subject, verb, complement, object, and adverbial (also mentioned in Quirk, 1972:34; and Eastwood, 1994). Word order is important, and, unlike in Arabic, the subject and verb order show which is which. For example, nouns accept an ‘s’ in the plural form but do not have suffixes to indicate whether they are a subject or an object. The word order is only changed

when there is a reason to do so (Eastwood, 1994:5). Since the term ‘sentence’ is too vague and the English and Arabic definitions do not entirely align, the terms ‘clause’, ‘structure’, and ‘form’ are utilised in this thesis, depending on the context.

Throughout this chapter, the passive and active will be referred to as passive or active forms and not passive or active verbs, unless what is being referred to is specifically a verb, as the passive occurs with both verbs and (passive) participles. The same is true for the active. The term ‘active verb’ is quite limited and does not include all the different elements included in this form.

When presenting and comparing elements, the percentages are included. In addition, as the passive structure and its different elements are not very common in either language, it was deemed preferable to count the occurrences of the elements per 100,000 words.

The formula for number of occurrences: $\text{number of an element} = \frac{\text{size of the corpus in which it occurs}}{100.000}$

For example, the passive participle occurred 11 times in the 1997-2000 Arabic parallel corpus, thus its frequency was calculated as follows: $11 \div (26.990 \text{ [the size of this corpus]} \div 100,000) = 40.67 \text{ per } 100,000$.

The 1997-2000 parallel corpus was divided into two sub-corpora: the 1997-2000 English and the 1997-2000 translated corpus (its Arabic translation).

4.1.1 1997-2000 Translated corpus: passive structures

The 1997-2000 English corpus consists of 31,019 words, while its Arabic translation consists of 26,990 words. The following table presents a summary of the translation procedures used:

4.1.1.1 Translation procedures used by the translators

- | |
|--|
| <ol style="list-style-type: none"> 1. Translating the passive form into an active form <ol style="list-style-type: none"> 1.1. Active participle with active meaning 1.2. Medio-passive verb/participle (active form with medio-passive meaning) 1.3. Active verb with active meaning 1.4. 'Be accomplished' verb 1.5. Verbal noun 1.6. Relative clause 1.7. Nominal clause 1.8. Compound structure <ol style="list-style-type: none"> 1.8.1 Verb + verbal noun 1.8.2 Verbal phrase consisting of <i>كان</i> <i>kān</i> followed by a complement 1.8.3 Modal structure that consists of <i>يمكن</i> <i>yumkin</i> 'could', <i>ينبغي</i> <i>yanbağī</i> 'ought to', or <i>لا بد</i> <i>lā budd</i> 'should', followed by a verbal noun 1.9. Other procedure <ol style="list-style-type: none"> 1.9.1 Adverbial phrase + verbal noun (this is found only in the 1997-2000 translated corpus, where it occurs 8 times) 2. Translating the passive form into a passive form <ol style="list-style-type: none"> 2.1. Passive verb 2.2. Passive participle 2.3. Verbal phrase consisting of <i>كان</i> <i>kān</i> followed by a passive complement 2.4. Verbal phrase consisting of <i>كان</i> <i>kān</i> followed by a passive participle complement |
|--|

Table 4.5 outlines the procedures used by the translators to translate the English passive (and reduced passive) structures in the 1997-2000 translated corpus. They can be divided into two main categories, and a number of subsidiary categories.

4.1.1.1.1 Translating the passive form into an active form

There is a total of 148 passive forms in the 1997-2000 translated corpus, and 87 of these were translated into an active form, comprising 58.78% of the total (58.78 per 100,000 words). These active forms can be further into various categories, as shown in Table 4.5 above and described in the following subsections.

4.1.1.1.1.1 Active participle with active meaning

The participle and the infinitive ‘*maṣḍar*’ are nominal forms in Arabic (note that Arabic grammar subsumes what might be considered to be adjectives under the category of nouns). There are two types of Arabic participles: اسم الفاعل *ism al-fāʿil* ‘the active participle’, and اسم المفعول *ism al-mafʿūl* ‘the passive participle’. The basic form of the active participle means ‘doing, having done’, whereas the basic form of the passive participle means ‘being done, having been done’. Just like the perfect and imperfect verb forms, the active and passive participles have 10 forms (Schulz, 2000: 280). Both participles were used by translators to translate the passive form. Active participles comprise 7 of the 87 active forms, i.e. 8.05% (25.94 per 100,000 words). For example, ‘The slow component is associated with equatorial regions of the sun’ was translated as إن المرگبة البطينة مرتبطة بالمناطق الاستوائية من الشمس *inna al-murakkiba al-baṭī’a murtabiṭa bil-manāṭiq al-’istiwā’iyya min al-šams*. The English passive verb ‘is associated’ is translated with the active participle مرتبطة *murtabiṭa*.

4.1.1.1.1.2 Medio-passive verb/participle (active form with medio-passive meaning)

This category occurred only once, i.e. 1.15% (3.71 per 100,000 words). A verb is considered medio-passive when it is active in form but semantically has a passive-like meaning. Derived forms of the basic verb Form I can indicate a passive-like meaning, especially Forms V, VII, VIII, and IX. An example is ‘The plaster was composed of gypsum, anhydrite’, which was translated as وكانت طبقة الملاط تتكون من الجبس والأنهيدرايت *wa kānat ṭabaqat al-milāṭ tatakawwan min al-jibs wa al-a’nhīdrāyt*. The passive verb ‘composed’ is translated with the medio-passive تتكون *tatakawwan*.

4.1.1.1.1.3 Active verb with active meaning

Many active forms belonged to this category, accounting for 34 of the 87 active forms i.e. 39.08% (125.97 per 100,000 words). For example, ‘The tomb’s wall paintings were severely disturbed as well, but this was the result of natural processes, not of grave robbers’ was translated as كذلك فسدت الرسوم الجدارية للمقبرة بشدة، ولكن هذا كان بسبب العوامل الطبيعية وليس بفعل لصوص المقابر *kaḏālika fasadat al-rusūm al-jidāriyaa lil-maqbara bišidda, wa lakin haḏā kān bisabab al-ṣawāmil al-ṭabīʿiyya wa laysa bifīʿl luṣūṣ al-maqābir*.

4.1.1.1.1.4 ‘Be accomplished’ verb

This category involves the use of تم *tamma* ‘be done’ with the المصدر *maṣḍar* ‘verbal noun’. It occurred in 3 of 87 active forms, i.e. 4.45% (11.12 per 100,000 words). For example, ‘until the

word “intelligent” is defined’ was translated as *ilā`an yatimma taṣrif kalimat “ḍakī”*, and ‘That perspective has been gained from the growing awareness that by-products from a global technological society have the power to alter the planetary climate’ was translated as *وقد تم اكتساب هذا المنظور من الإدراك المتزايد بأن بإمكان المنتجات الثانوية التي تخلفها الصناعات أن تغير مناخ كوكبنا wa qad tamma iktisāb haḍā al-maṇḍūr min al-`idrāk al-muatzāyid bi`anna bi`imkān al-muntajāt al-tānawiyya allatī tuḡallifu-hā al-ṣināʿāt`an tuḡayyir manāḡ kawkabī-nā.*

4.1.1.1.1.5 Verbal noun

The *maṣḍar* verbal noun’ is derived from the verb that refers nominally to an activity or an action the verb denotes. This occurred in 5 of the 87 active forms, i.e. 5.75% (18.53 per 100,000 words). For example, ‘Certainly, the enthusiasm of the British visitors, the flattery of being asked and the challenge of the research problem all swayed him’ was translated as *من المؤكد أن حماس الزوار البريطانيين، والإطراء الناتج من دعوته لشغل المنصب، والتحدي الخاص بمشكلة البحث، كانت min al-mu`akkad`anna ḡamās al-zuwwār al-birīṭāniyīn, wā al-`iṭrā`al-nātij min daṣwat-ih liṣaḡl al-manṣib, wa al-taḡaddī al-kāṣṣ bimuškilat al-baḡṭ, kānat jamīʿan warā` haḍā al-qubūl.* The word *دعوته* *daṣwat-ih* is a noun with a verb meaning and denotes an activity.

4.1.1.1.1.6 Relative clause

Relative clauses consist of *alladī* or a related form, such as the feminine singular *allatī*, followed by a verb. They occurred in 4 of 87 active forms, i.e. 4.60% (14.82 per 100,000 words). For example, ‘Debate continues on how much of it is caused by the burning of fossil fuels’ was translated as *fa`inna al-niqāṣ mā zāl muḡtadimā ḡawl al-nisba min-h allatī yusabbibuhā ḡarq al-waqūd al-`uḡfūrī.*

4.1.1.1.1.7 Nominal clause

Some passive forms were translated by a verbless structure. A nominal clause replaced the use of the active verb in 4 of 87 forms, i.e. 4.60% (14.82 per 100,000 words). For example, ‘Finally, they were so obviously imperilled that the Egyptian government closed the tomb to the public in the late 1930s’ was translated as *وفي النهاية كان من البديهي أن تلجأ الحكومة المصرية إلى إغلاق المقبرة Wa fi al-nihāya kān min al-badīhī`an talja`al-ḡukūma al-miṣriyya`ilā`iḡlāq al-maqbara`amām al-zuwwār fi`awākīr al-talātīniyyāt min al-qarn al-mādī.*

4.1.1.1.1.8 Compound structure

Compound structures occurred in 21 of 87 forms, i.e. 24.14% (77.81 per 100,000 words). They consist of two structures combined and are divided into three subsections: verbal + verbal noun; verbal phrase consisting of كان *kān*, followed by a complement; and a modal structure that consists of يمكن *yumkin* ‘could’, ينبغي *yanbaġī* ‘ought to’, or لا بد *lā budd* ‘should’, followed by a verbal noun.

4.1.1.1.1.8.1 Verb + verbal noun

A compound structure involving a verb followed by a verbal noun occurred in 10 of 87 active forms, i.e. 11.49% (37.05 per 100,000 words). For example, ‘They examined the paint to see whether it was flaking, being abraded, or losing its cohesiveness’ was translated as وفحصوا *wa fahaṣū al-ṭilā` liyarū` in kān qad taṣarraḍ lil-taqāṣṣur aw al-saḥaj aw lifuqdān tamāsuk-ih.*

4.1.1.1.1.8.2 Verbal phrase consisting of كان *kān* followed by a complement

The use of كان *kān* ‘to be’ and its sisters was a relatively common way of translating the passive form. It occurred in 8 of 87 active forms, i.e. 9.20%. Certain verbs are called ‘sisters of كان *kān*, because they are similar to كان *kān* in their syntactic behaviour and meaning. They take a subject and a predicate instead of a subject and an object, like many verbs (Ryding, 2005). كان *kān* occurs in different forms, e.g. كانتا *kānatā* ‘they two (f.) were’, كان *kān* ‘he/it (m.) was’, يكون *yakūn* ‘he/it (m.) is’, كون *kawn* ‘being (verbal noun)’, كانت *kānat* ‘she/it (f.) was’, and تكون *takūn* ‘she/it (f.) is’. Its sisters include: بات *bāt* ‘to become’, ظل *ḍalla* ‘to keep, to remain’, أصبح *aṣbah* ‘to become’, أمسى *amsā* ‘to become’, أضحى *aḍhā* ‘to become’, صار *ṣār* ‘to become’, ما دام *mā dām* ‘as long as’ (literally ‘to not continue’), ما زال *mā zāl* ‘to remain, to continue to be’. This is the only technique found in both the active (29.64 per 100,000 words) and passive (14.82 per 100,000 words) translated Arabic structures. An example is ‘But it is clear she was beloved by her husband’, which was translated as ولكن من الواضح أنه كان يعشقها *wa lakin min al-wāḍiḥ `anna-h kān yaṣṣqḥā.*

4.1.1.1.1.8.3 Modal structure that consists of يمكن *yumkin* ‘could’, ينبغي *yanbaġī* ‘ought to’, or لا بد *lā budd* ‘should’ followed by a verbal noun

Modality exists in both Arabic and English languages, but the two languages employ different structures. In English, modal forms include modal auxiliaries such as ‘could’, ‘may’, and

‘should’, while in Arabic they include verbs such as يمكن *yumkin* ‘could’, ينبغي *yanbagī* ‘ought to’; nominals such as لا بد *lā budd* ‘should’, and adverbials such as من الجائز *min al-jā’iz*, ‘may’ and من الممكن *min al-mumkin* ‘possible’.

Modal structures occurred in 3 of 87 active forms, i.e. 3.45% (11.12 per 100,000 words). For example, ‘And refer only to things which admit of being perceived by the senses’ was translated as ويشير فقط إلى الأشياء التي يمكن إدراكها بالحواس *wa yuṣīr faqaṭ ‘ilā al-’aṣyā’ allatī yumkin ‘idrākuhā bil-ḥawāss*.

4.1.1.1.1.9 Other procedure

The other procedure found only in the 1997–2000 translated corpus was adverbial phrase + a verbal noun.

4.1.1.1.1.9.1 Adverbial phrase + a verbal noun

This occurred in 8 of 87 active forms, i.e. 9.20% (29.64 per 100, 000 words). Arabic adverbials fall into different categories, such as adverbials of time, قبل *qabl* ‘before’, بعد *baʿd* ‘after’, and بمجرد *bimujarrad* ‘as soon as’. For example, ‘The space shuttle could transfer the crew to the Mars craft once it was completed’ was translated as وباستطاعة المكوك الفضائي نقل الملاحين إلى سفينة المريخ بعد الانتهاء من إنجازها *wa bi-’stiṭāʿi al-makūk al-faḍā’ī naql al-mallāḥīn ‘ilā safīnat al-marriḳ baʿd al-’inithā’ min ‘injāzihā*.

4.1.1.1.1.2 Translating the passive form into a passive form

This was the second-most-common strategy used by the translators in the 1997–2000 translated corpus. It comprised 61 of 148 passive forms, i.e. 41.22% of examples retrieved from the English corpus. The procedure can be divided into four sub-categories, as discussed in the following sections.

4.1.1.1.2.1 Passive verb

The passive verb comprises the majority of the translated passive forms, accounting for 46 of 61, i.e. 75.41% (170.43 per 100,000 words). An example of a passive verb translated as a passive verb is, ‘The topography gets more interesting on the rim of Valles Marineris, which is thought to resemble the Canyonlands in Utah’, which was translated as وتصبح الطبوغرافيا أكثر إثارة للاهتمام على حافات فاليس مارينيرس الذي يعتقد بأنه يشبه كانيونلاندس بولاية يوتا الأمريكية *wa tuṣbiḥ al-*

ṭubūgrāfiyā 'aktar 'itāra lil-'ihtimām Ṣalā ḥāffāt vālīs mārīnīrs alladī yuṣṭaqad bi'annahu yuṣbih kāniyūnlānds biwilāyat yūtā al-'amrīkiyya.

It should be noted that the only passive verbs considered in the Arabic translation were those that were equivalents of the English passive verbs. Other Arabic passive verbs in the texts were not counted. This was because the focus was on the number of passive verbs in the English texts and the extent to which these were retained in the Arabic translations. In addition, this allowed for a coherent comparison of the Arabic translated and original texts. The inclusion of all the Arabic passive forms without equivalents in the English texts would have led to incoherent results. Another issue (mentioned previously in [section 3.3.2.1.2](#)) is that not all the passive forms in the English texts had been translated into Arabic. Those that were not translated at all were not included in the total count.

4.1.1.1.2.2 Passive participle

This was the second type of Arabic participle (mentioned in [section 4.1.1.1.1](#)), the other being the active participle. Passive participles occurred in 11 of 61 passive forms, i.e. 18.03% (40.76 per 100,000 words). For example, 'Astronauts in low Earth orbit are protected by the planet's magnetic field,' was translated as إن رواد الفضاء في مدار أرضي منخفض محميون بفضل الحقل المغنطيسي 'inna ruwwād al-faḍā 'fī madār 'arḍī munḥafīḍ maḥmiyyūn bifadl al-ḥaql al-magnāṭīsī al-'arḍī.

4.1.1.1.2.3 Verbal phrase consisting of كان followed by a passive complement

This occurred in 1 of 61 passive forms, i.e. 1.64% (3.71 per 100,000 words). In Arabic, it is possible for a verbal phrase to be used as the equivalent of the verb 'to be' or 'been'. For example, 'As well as other photographic records that had been made in the intervening years' was translated as إضافة إلى سجلات مصورة أخرى كانت قد أنجزت في أعوام تالية 'idāfatan 'ilā sijjilāt muṣawwara 'uḡrā kānat qad 'unjizat fī 'aṣwām tāliya. The verbal phrase كانت kānat, followed by a passive verb أنجزت 'unjizat, are used to translate the passive form 'had been made'.

4.1.1.1.2.4 Verbal phrase consisting of كان followed by a passive participle complement

This occurred in 3 of 61 passive forms, i.e. 4.92% (11.12 per 100,000 words). For example, 'Their initial random placement has been preserved?' was translated as إن وضعها المبدئي العشوائي ظل محفوظا? 'inna waḍḥa-hā al-mabda 'ī al-ṣaṣwā 'ī ḍalla maḥfūḍā? The verbal phrase ظل ḍalla,

followed by a passive participle *محفوظا mahfūḍa*, was used to translate the passive verb ‘preserved’.

4.1.1.2 The structure of the Arabic passive in the 1997-2000 parallel corpus

When analysing the structure of the passive, it was useful to investigate how similar the Arabic target texts were to the English source texts and how far the target texts deviated from the original Arabic texts. Because Arabic clauses do not have a single fixed word order, the structures were separated into verbal and nominal clauses to examine how each passive structure started.

Abdelfattah (1990, cited in [Dickins, 2020: 120](#)) confirms that the use of nominal clauses in the Egyptian newspaper *Al-ahram* has been increasing since 1935, while the use of verbal clauses has been declining. He explains that the colloquial Egyptian Arabic, which makes heavy use of nominal clauses, is one of the factors encouraging this. Additionally, he mentions that editorial writers began to utilise *inna* more frequently during this time period, which necessitated the inclusion of a following predicand.

In the scientific texts investigated in this study, nominal clauses were significantly more common than verbal clauses. [Dickins \(2020\)](#) argued that this increase in nominal clauses is the result of a change in the realisational semantic ‘values’ of the phrase-structural para-syntactic structures, rather than a change in the phrase-structural para-syntax of Standard Arabic. Another recent study by [Ababneh and Al Rousan \(2020\)](#) investigated the influence of English translation on the structure of Arabic. It presented a number of Arabic syntactic structures that had shifted in terms of function, with new structures emerging that had not previously existed in Standard Arabic. Their study focused on the media translation field, specifically Jordanian electronic journalism. They found that inexperienced translators who were not competent in both English and Arabic structures were making the mistake of starting with nominal clauses, when verbal clauses were possible. The authors claim that the nominal structure dominates the verbal in modern Arabic.

The current study examined the structures in which the passive form was found to occur. The results for the 1997–2000 translated corpus can be divided into two categories: verbal clauses and nominal clauses. These are discussed in turn in the following sections.

4.1.1.2.1 Verbal clauses

Of the 47 structures retrieved, 35, i.e. 74.47% – i.e. just under three-quarters – begin with a passive form (129.68 per 100,000 words). The frequency of the passive verbal clause in the 1997-2000 parallel corpus surpassed those in all other translated and original corpora. For example, ‘Newcomb was born in 1835 in Wallace, Nova Scotia, the oldest of seven siblings’ was translated as *ولد نيوكومب عام 1835 في والاس بولاية نونفا سكوشيا، وكان أكبر إخوته السبعة* *wulid nayūkūmb ṣām 1835 fī walās bi-wilāyat nawwā sakūšyā, wa kān `akbar `iḳwat-ih al-sabʿa.*

It is worth noting there was a total of 61 passive forms in the 1997–2000 translated corpus, including the passive participle. However, only those 47 structures with passive verbs were selected. This was because the results were to be compared with the 1997–2000 and 2016–2018 original corpora, which only included passive verbs. This provided more accurate results.

4.1.1.2.2 Nominal clauses

Of 47 structures, 12, i.e. 34.04% did not start with a verb, but with other elements (44.46 per 100,000 words). For example, ‘The sounds are trapped inside the sun; they cannot propagate through the near vacuum of space’ was translated as *وهذه الأصوات تُحتجز داخل الشمس، ومن ثم لا يمكنها الانتشار في الفضاء القريب من الشمس* *wa hādīhi al-`aṣwāt tuḥtajaz dākīl al-šams, wa min ṭumma lā yumkinu-hā al-intišār fī al-faḍā` al-qarīb min al-šams.*

4.1.1.3 Treatment of the English agentive passive

The number of agentive passive forms found in the 1997-2000 English corpus is 30 of 148 passive forms, i.e. 20.27%. This corpus consisted of 31,019 words, thus the agentive passives comprised 0.10% of the total. Only a minority of these (6 of 30) were translated into Arabic as agentive passive forms (4.05% of all Arabic passive forms and 20% of the English agentive passives). The rest of the English agentive passive forms were translated as active structures (24 of 30, i.e. 80%). This was expected, as Arabic generally does not prefer the use of the agentive passive, plus scientific texts place more emphasis on the action itself than on the doer of the action.

Procedures used by the translators for the agentive passive ‘by-phrase’:

A. The English agentive passive is translated into an Arabic active form:

- Translating a ‘by-phrase’ with an Arabic equivalent.
- Grammatical transposition of the ‘by-phrase’.

B. The English agentive passive is translated into an Arabic passive form:

- Translating a 'by-phrase' with an Arabic equivalent.

Table 4.6 outlines the procedures used by the translators for the agentive passive.

4.1.1.3.1 The English agentive passive is translated into an Arabic active form

The English agentive passive occurred 30 times in the 1997–2000 parallel English corpus, which consisted of 31,019 words in total. This gave the agentive passive a frequency of 0.10% (96.71 per 100,000 words). Of the 30 occurrences, 24, i.e. 80%, were translated into active structures. These can be divided into two types, as discussed in the following sections.

4.1.1.3.1.1 Translating a 'by-phrase' with an Arabic equivalent (e.g. *bi-wāsiṭat*, *bi*, *bi-fiʿl*, *ʕan ṭarīqi*, *ʕan*)

Out of the 24 (88.92 per 100,000 words) English agentive passives translated as active structures, 9 used Arabic propositions equivalent to the English 'by-phrase', i.e. 37.50%. The translators used 6 different elements to translate agentive passives, as follows: 1. The agentive phrase *بفعل* *bi-fiʿl* 'by the act/fact of'; 2. The preposition *ب* *bi* 'by' as an agent introducer; 3. The agentive phrase *بواسطة* *bi-wāsiṭat* 'by means of'; 4. The agentive phrase *عن طريق* *ʕan ṭarīqi* 'by way of'; 5. The preposition *عن* *ʕan* 'via' as an agent; 6. The agentive phrase *من قبل* *min qibal* 'by'.

4.1.1.3.1.1.1 *بفعل* *bi-fiʿl* 'by the act/fact of'

This occurred 3 times, i.e. 33.33% (11.12 per 100,000 words). For example, 'Space dust comprising materials that have been altered by great heat' was translated as *الغبار الفضائي الذي خضعت للتعديل بفعل حرارة شديدة يتألف من مواد* *al-ġubār al-faḍā'ī alladī yata'allaf min mawādd ḡadaḡat lil-taḡdīl bi-fiʿl ḡarāra šadīda*.

4.1.1.3.1.1.2 *ب* *bi* 'by'

This occurred twice, i.e. 22.22% (7.41 per 100,000 words). For example, 'Although it is also affected by volcanism,' was translated as *فعلی الرغم من تأثره بالنشاطات* *fa-ʕalā al-ruġm min ta'aṭṭur-ih bil-našāṭāt*. Another example was, 'Refer only to things which admit of being perceived by the senses', which was translated as *ويشير فقط إلى الأشياء التي يمكن إدراكها بالحواس* *wa yušīr faḡaṭ 'ilā al-'ašyā' allatī yumkinū 'idrāku-hā bil-ḡawāss*.

4.1.1.3.1.1.3 بواسطة *bi-wāsiṭat* ‘by means of’

This occurred once, i.e. 11.11% (3.71 per 100,000 words). Thus, ‘Now being scrutinized by LAS- CO and UVCS’ was translated as *allatī* التي يجري تفحصها بواسطة الألتين لاسكو ويوفي سي إس *yajrī tafahḥuṣu-hā bi-wāsiṭat al-`ālatayn LASCO wa-UVCS*.

4.1.1.3.1.1.4 عن طريق *ʕan ṭarīqi* ‘by way of’

This occurred once, i.e. 11.11% (3.71 per 100,000 words). Thus, ‘It appears that heat was transferred, at least in the relatively recent past, by the eruption of vast plains of basaltic lava’ was translated as *wa* ويبدو أن الحرارة كانت تنتقل، في الماضي القريب نسبيا على الأقل، عن طريق اندفاعات حمم *yabdū `anna l-ḥarāra kānat tantaqil, fī al-māḍī al-qarīb nisbiyyan ʕalā al-`aqqal, ʕan ṭarīq indifāʕāt ḥimam*.

4.1.1.3.1.1.5 عن *ʕan* ‘via’

This occurred once, i.e. 11.11% (3.71 per 100,000 words). Thus, ‘Infrared light, also emitted by stars, is later projected through the ice’ was translated as *wa kaḍālik yusallaṭ al-ḍaw` taḥt al-aḥmar al-layl* وكذلك يسقط الضوء تحت الأحمر الذي *yaṣḍur ʕan al-nujūm* يصدر عن النجوم أيضا على الجليد لمعرفة ماهية الجزيئات المتجمدة في داخله *al-`aḥmar alladī yaṣḍur ʕan al-nujūm `ayḍan ʕalā al-jalīd li-maʕrifat māhiyyat al-juzay`āt al-mutaḡammida fī dāḡilih*.

4.1.1.3.1.1.6 من قبل *min qibal* ‘by’

This occurred once, i.e. 11.11% (3.71 per 100,000 words). Thus, ‘Few of the ones we’ve been to could have been accessed by a nonspecialized rover’ was translated as *wa rubbamā kān min al-mumkin al-wuṣūl `ilā al-ʕadad al-qalīl alladī balagḡnā-h min-hā min qibal jawwāla ḡayr mutḡaṣṣiṣa* وربما كان من الممكن الوصول إلى العدد القليل الذي بلغناه منها من قبل جوّالة غير متخصصة

4.1.1.3.1.2 Grammatical transposition of the ‘by-phrase’

This technique was used more often than a direct equivalent of the ‘by-phrase’, appearing in 15 out of 24 forms, i.e. 62.50%. This process occurs in translation when part of speech order is changed. In this case, English passive forms were replaced by a rephrased Arabic structure without any mention of the agentive phrase.

When translating the English agentive passive, many translators used grammatical transposition, changing the agentive passives into active forms in Arabic. The translators here

did not use prepositions to replace the ‘by-phrase’, but rather rephrased the structures to make them more natural. For example, ‘Earth and Venus, on the other hand, have climates that are driven by the dynamic interplay’ was translated أما الأرض والزهرة فلهما مناخان يحكمهما التفاعل الديناميكي المتبادل بين السيرورات الجيولوجية والجوية *ammā al-’arḍ wa al-zuhra fa-lahumā manāḳān yaḥkum-humā al-tafāʿul al-daynāmīkī*. The phrase ‘dynamic interplay’ *al-tafāʿul al-daynāmīkī* is the subject of the verb ‘are driven’ *yaḥkum-humā*. The subject is the agent here. Another example can be found in, ‘But it is clear she was beloved by her husband’, which was translated as ولكن من الواضح أنه كان يعشقها *wa lakin min al-wāḍiḥ ʾanna-h kān yaʿšiq-hā*.

4.1.1.3.2 The English agentive passive is translated into an Arabic passive form

The English agentive passive occurred 30 times in total (111.15 per 100,000 words). Out of these, 6, i.e. 20% were translated into a passive structure.

4.1.1.3.2.1 Translating the ‘by-phrase’ with an Arabic equivalent (e.g. *bi-wāsiṭat, bi, bi-fiʿl, ʿan ʿarīqi, ʿan*)

The English agentive passives found in the 1997-2000 corpus were translated into a passive structure using Arabic propositions equivalent to the English ‘by’ 6 out of 30 times, i.e. 20% (22.23 per 100,000 words). Four techniques were used to translate English agentive passives that were translated as Arabic agentive passive structures: 1. The agentive phrase بواسطة *bi-wāsiṭat* ‘by means of’; 2. The agentive phrase بفعل *bi-fiʿl* ‘by the act/fact of’; 3. The preposition ب *bi* ‘by’ as an agent introducer; and 4. The agentive phrase بفضل *bi-faḍl* ‘thanks to’. Similar techniques were used on the rest of English agentive passives that were translated as Arabic active structures (24 out of 30) (as discussed in section 4.1.1.3.1.1). It should be emphasised that, unlike in the examples discussed in the previous section, grammatical transposition of the ‘by-phrase’ technique is not used in agentive passives in Arabic.

4.1.1.3.2.1.1 بواسطة *bi-wāsiṭat* ‘by means of’

This occurred twice, i.e. 33.33% (7.41 per 100,000 words). For example, ‘The propellant, generally hydrogen, is first ionized by radio waves and then guided into a central chamber’ was translated as ويؤين أولاً الوقود الداسر - الذي هو هيدروجين عموماً - بواسطة موجات راديوية، ثم يوجه إلى حجرة مركزية *wa yuʾayyan ʾawlā al-waḳūd al-dāsir alladī huw hadrūjīn ʿumūmā bi-wāsiṭat mawjāt rādyuwīyya, tumma yawajjah ʾilā ḥujra markzyiya*. The other example, ‘Flows into a chamber and is ionised by an electron gun’, was translated as ويؤين بواسطة مدفع إلكتروني *wa yuʾayyan bi-wāsiṭat midfaʿ ʾilikrūnī*.

4.1.1.3.2.1.2 ب *bi* 'by'

This occurred twice, i.e. 33.33% (7.41 per 100,000 words. 'They are pushed along by the gentle pressure of sunlight—feeble but free' was translated as تُدْفَع هذه الأشعة بالضغط المنخفض لنور الشمس لكنه طليق - *tudfaḥ haḍihi al-ašriḥa bil-ḍağt al-munḡaḍiḍ li-nūr al-šams al-ḍaḡiḡ, lakinna-hu ṭaliq*, and 'The theory that liquid water was once stable on Mars has been bolstered by the Mars global surveyor prob,' was translated as قد دُعِمَت النظرية القائلة بأنه كان يوجد في وقت من الأوقات ماء سائل على المريخ بالصور التي أخذها مسبار الماسح الشامل للمريخ *qad duḡimat al-naḍariyya al-qā'ila bi'anna-hu kān yūjad fī waqt min al-'awqāt mā sālil ʿalā al-mirriḡ bil-šumar allatī 'aḡaḍahā masbār al-māsh al-šāmil lil-mirriḡ.*

4.1.1.3.2.1.3 بفعل *bi-fiʿl* 'by the act/fact of'

This occurred only once, i.e. 16.67% (3.71 per 100,000 words. In that instance, 'That appeared to have been deeply incised by water flowing for hundreds if not thousands of years' was translated as بدأ أنه شقَّ بعمق بفعل مياه جرت فيه قبل مئات، إن لم يكن آلاف، من السنين *badā 'anna-hu šuqqa bi-šumq bi-fiʿl miyāh jarat fīhi qabl mi'āt, 'in lam yakun 'ālāf min al-sinīn.*

4.1.1.3.2.1.4 بفضل *bi-faḍl* 'thanks to'

Similarly, this occurred only once, i.e. 16.67% (3.71 per 100,000 words). In that instance, 'Astronauts in low Earth orbit are protected by the planet's magnetic field' was translated as إن رواد الفضاء في مدار أرضي منخفض محميون بفضل الحقل المغنطيسي الأرضي *in rwwād al-faḍā' fī madārī 'arḍī munḡiḍ maḡmiyyūn bi-faḍl al-ḡaql al-maḡnaṡīsī al-'arḍī.*

4.1.1.4 The passive form context

This section examines the elements that occurred with the passive structure in the 1997–2000 and 2016–2018 parallel/original corpora and highlights the subtle changes in the passive context. The comparison of these elements across corpora revealed where they could be found and whether they increased over time, declined, or disappeared altogether. This was crucial for understanding and analysing the contexts in which the passive form appeared.

4.1.1.4.1 The use of كان *kān* 'to be' and its sisters

As mentioned in section 4.1.1.1.1.8.2, the use of *kān* is a common procedure for translating the English passive, and it is found in the translated active and passive structures. The passive form occurred as a *kān* complement, where the complement was either a passive verb or a passive

participle, in 4 out of 61 passive structures, i.e. 6.56% (14.82 per 100,000 words). For example, ‘As well as other photographic records that had been made in the intervening years’ was translated as إضافة إلى سجلات مصورة أخرى كانت قد أنجزت في أعوام تالية *’iḍāfa ’ilā sijjilāt muṣawwara ’ukrā kānat qad ’unjizat fī ’aḡwām tāliya*. *Kān*, here, is followed by a passive verb *’anjizat*. Another example, ‘And whether it was covered with dirt, dust or insect nests’ was translated as وما إذا كان مغطى بالأوساخ أو الأتربة أو أعشاش الحشرات *wa mā ’idā kān muḡaṭṭā bil-awsāk ’aw al-’atriba ’aw ’aḡšāš al-ḡaṣarāt*. *Kān*, here, is followed by a passive participle *muḡaṭṭā*.

Kān also occurred at the start of a passive structure once out of 61 passive structures, i.e. 1.64% (3.71 per 100,000 words). ‘It had already been broken into and looted’ was translated as كانت قد كُسرَت وسُلب ما فيها *kānat qad kusirat wa sulib mā fihā*.

4.1.1.4.2 The particle قد *qad*

The particle قد *qad* is commonly found in translations of passive structures. Traditionally, قد *qad* is used in Arabic as an emphatic particle, preceding the perfect verb to signify completion of the action or proximity to the beginning an action. Dickins and Watson (1999) highlight that the particle قد with the perfect tense is typically thought to accentuate the entirety of the clause in which it appears. This particle appeared in 13 out of 61 passive structures, i.e. 21.31% (48.17 per 100,000 words). For example, ‘Some of its instruments are now poised to resolve several other mysteries’ was translated as وقد أنيط ببعض الأجهزة على متن سوهو مهمة كشف أسرار أخرى *wa qad ’unīṭ bibaḡḡ al-’ajhiza ḡalā matn sūhū muhimmat kaṣf ’asrār ’ukrā*.

4.1.1.4.3 Conjunctions: و *wa*, ف *fa*, ثم *tumma*, and أو *aw*

A conjunction is a word or phrase that connects one part of a sentence with another. Oxford Modern English Grammar (Aarts, 2011) defines a conjunction as a linking word. There are two types of conjunctions: subordinating and coordinating. A subordinating conjunction helps to subordinate one clause to another (e.g., ‘that’, ‘whether’, and the interrogative ‘if’ and ‘for’). The coordinating conjunctions – such as ‘and’, ‘but’, and ‘or’ – are used to link phrases and words. Dickins (2017:2) explains that coordinators link nominal, verbal, adjectival, and clausal words and phrases in both English and Arabic. Ryding (2005:407) defines Arabic conjunctions as words and phrases that syntactically and semantically coordinate, subordinate and link clauses. Abu Chacra (2007:51) reports و *wa*, ف *fa*, and ثم *tumma* as the most common coordinating conjunctions. Dickins and Watson (1999, cited in Dickins, 2017: 1) add that, in Standard Arabic, the most fundamental coordinating conjunctions are و *wa* ‘and’ (when not

used in a subordinating context); ف *fa* ‘and/so’; ثم *tumma* ‘then’; and أو *aw* ‘or’. All other conjunctions are subordinating, including و *wa* ‘and’, when used as a circumstantial حال *ḥāl* clause introducer. Conjunctions occurred in 38 out of the 61 translated passive structures retrieved from the 1997-2000 translated corpus, i.e. 62.30%.

- و *wa* ‘and’ is joined to the following word and – unlike in English, where it is usually added before the last constituent of a chain of coordinated words – it is normally repeated before every constituent of a chain of coordinated words. و *wa* is the most commonly used conjunction in Arabic generally and in the translated structures retrieved from the parallel corpus specifically. Unlike in English, sentences often begin with the conjunction و *wa*. It appears both as a clause initiator and a coordinating conjunction between two phrases. و *wa* accounted for 28 out of the 38 conjunctions, i.e.73.68%. For example, ‘The treasures that were to accompany Nefertari in her death were gone, her sarcophagus smashed and her mummy spirited away’ was translated as واختمت الكنوز التي كانت مصاحبة لنفرتاري في قبرها وخطم تابوتها *wa- ‘ḵtafat al-kunūz allatī kānat muṣāḥiba linafartārī fī qabrihā wa ḥuṭim tābūthā*.
- ف *fa* ‘and/so’ is joined to the following word and suggests a succession or an order between states or actions. This accounted for 9 of 38 conjunctions, i.e.23.68%. For example, ‘Elements of both models have been incorporated into the prevailing interpretation of the past billion years of Venus’s geologic history’ was translated as فقد أدمجت عناصر من كلا النموذجين في التفسير السائد للتاريخ الجيولوجي لكوكب الزهرة خلال البليون سنة المنصرمة *fa-qad ‘udmijat ‘fanāšir min kilā al-namūḍajayn fī al-tafsīr al-sā’id lil-tārīḵ al-jiyūlūjī likawkab al-zuhra ḵilāl al-bilyūn sana al-munṣarima*.
- ثم *tumma* ‘then, and then’ is not joined to the following word and suggests a succession with a time break between the actions. This occurred once out of the 38 conjunctions, i.e.2.63%. In that instance, ‘And then guided into a central chamber threaded with magnetic fields’ was translated as ثم يوجه إلى حجرة مركزية تجتاها حقول مغنطيسية *tumma yuwajjah ‘ilā ḥujra markaziyya tajtāzu-hā ḥuqūl maḡnāṭsiyya*.

4.1.1.5 Tense and measure of the passive verb

In the following analysis, the term ‘Measure’ was preferred to ‘Form’ for describing verb categories I-X, as the latter has different uses in linguistics and could have caused confusion.

Measure I	7
Measure II	8
Measure III	0
Measure IV	2
Measure V	0
Measure VI	0
Measure VII	0
Measure VIII	2
Measure IX	0
Measure X	1
Perfect passive	27
Measure I	13
Measure II	4
Measure III	0
Measure IV	7
Measure V	0
Measure VI	0
Measure VII	0
Measure VIII	2
Measure IX	0
Measure X	1

Table 4.7 shows that the perfect passive was the most commonly used verb type (27 out of 47 passive structures, i.e. 57.45% (100.04 per 100,000 words)), while the imperfect passive accounted for the remaining 20, i.e. 42.55% (74.10 per 100,000 words). Measure I was the most common in the perfect passive, accounting for 13 of the 27, i.e. 48.15%, and Measure II was the most common Measure in the imperfect passive, comprising 8 of the 20, i.e. 40%.

The 2016-2018 parallel corpus was divided into two sub-corpora: the 2016-2018 English corpus and the 2016-2018 translated corpus (its Arabic translation).

4.1.2 2016-2018 Translated corpus: passive structures

The 2016–2018 English corpus consisted of 20,573 words, while its Arabic translation comprised 19,517 words. The following tables presents summaries of the translation procedures used.

4.1.2.1 Translation procedures used by the translators

1. Translating the passive form into an active form
 - 1.1. Active participle with active meaning
 - 1.2. Medio-passive verb/participle (active form with medio-passive meaning)
 - 1.3. Active verb with active meaning
 - 1.4. ‘Be accomplished’ verb
 - 1.5. Verbal noun
 - 1.6. Relative clause
 - 1.7. Nominal clause
 - 1.8. Compound structure
 - 1.8.1 Verb + verbal noun
 - 1.8.2 Verbal phrase consisting of *كان* *kān* followed by a complement
 - 1.8.3 Modal structure that consists of *يمكن* *yumkin* ‘could’, *ينبغي* *yanbagī* ‘ought to’, or *لا بد* *lā budd* ‘should’, followed by a verbal noun
2. Translating the passive form into a passive form
 - 2.1. Passive verb
 - 2.2. Passive participle
 - 2.3. Verbal phrase consisting of *كان* *kān* followed by a passive complement
 - 2.4. Verbal phrase consisting of *كان* *kān* followed by a passive participle complement

Table 4.8 outlines the procedures used by the translators to translate the English passive (and reduced passive) structures in the 2016-2018 translated corpus. They can be divided into two main categories with sub-categories for each.

In total, 123 passive forms were retrieved from the 2016-2018 parallel corpus (597.87 per 100,000 words). Two translation strategies were used to translate the English passive form: namely, translation into the active form and translation into a passive form.

4.1.2.1.1 Translating the passive form into an active form

Out of the 123 passive forms, 71, i.e. 57.72%, were translated into active forms (363.79 per 100,000 words). This was similar to the 1997-2000 translated corpus, where 87 out of 148, i.e. 58.78% passive forms were translated into active forms. The Arabic active structures can be divided into 8 different categories, detailed in the following sections.

4.1.2.1.1.1 Active participle with active meaning

This occurred in 7 of 71 active participles, i.e. 9.86% (35.87 per 100,000 words). This was also similar to the 1997-2000 translated corpus, where 7 of 87 were translated as active participles, i.e. 8.05%. For example, ‘There are around 40 institutions involved in this project’ was translated as *fatimma mā yaqrub min 40 mu’assasa mušārika fī hadā al-mašrūʿ* فثمة ما يقرب من 40 مؤسسة مشاركة في هذا المشروع *mušārika fī hadā al-mašrūʿ*.

4.1.2.1.1.2 Medio-passive verb/participle (active form with medio-passive meaning)

The use of the medio-passive to translate the passive form was higher in the 2016-2018 translated corpus (6 out of 71, i.e. 8.45%) than in the 1997-2000 translated corpus (1 out of 87), i.e. 1.15%. It occurred in 30.74 per 100,000 words. For example, ‘Very little is known about the atmosphere and climate’ was translated as *lā yatawāfaru ladaynā al-kaṭīr min al-maʿlūmāt ḥawl al-ḡilāf al-jawwī wa al-manāk* لا يتوافر لدينا الكثير من المعلومات حول الغلاف الجوي والمناخ *lā yatawāfaru ladaynā al-kaṭīr min al-maʿlūmāt ḥawl al-ḡilāf al-jawwī wa al-manāk*.

4.1.2.1.1.3 Active verb with active meaning

This was the most used strategy in translated active forms, with 12 active verbs of 71, i.e. 16.90% (61.48 per 100,000 words). This number of active verbs was higher in the 1997-2000 translated corpus, where they accounted for more than one-third of the active forms (34 out of 87), i.e. 39.08%. For example, ‘The Palaeodeserts team is based at the Max Planck Institute for the Science of Human History in Jenna, Germany’ was translated as *yattakīd farīq al-ṣaḥārī al-qadīma min maʿhad māx blānk liʿulūm al-tārīḵ al-bašarī fī jīnā, ʿalmānyā maqarran la-h* يتخذ فريق الصحارى القديمة من معهد ماكس بلانك لعلوم التاريخ البشري في جينا، ألمانيا مقراً له *yattakīd farīq al-ṣaḥārī al-qadīma min maʿhad māx blānk liʿulūm al-tārīḵ al-bašarī fī jīnā, ʿalmānyā maqarran la-h*.

4.1.2.1.1.4 'Be accomplished' verb

This occurred in just 2 of the 71 active forms, i.e. 2.82% (10.25 per 100,000 words). This was slightly lower rate than in the 1997–2000 translated corpus, where it occurred in 3 of 87 active forms, i.e. 4.45%. For example, 'The total figure, however, will be disclosed' was translated as *وسيتّم الإفصاح عن الرقم النهائي wa sayatimm al-`iṣṣāḥ ṣan al-raqam al-nihā`ī*. The passive verb 'disclosed' was translated by a 'be accomplished' verb *تم*, followed by a verbal noun *الإفصاح*.

4.1.2.1.1.5 Verbal noun

This occurred in 8 of the 71 active forms, i.e. 11.27% (40.99 per 100,000 words). This is double the amount retrieved from the 1997-2000 translated corpus, where it occurred in 5 of 87 active forms, i.e. 5.75%. For example, 'It marries together two traditionally different fields: how information is stored in quantum things' was translated as *إنه يجمع مجالين مختلفين لا يجتمعان في العادة: كيفية تخزين المعلومات في أشياء كمية inna-hu yajmaṣ majālayn muḵtalifayn lā yajtmiṣān fī al-ṣāda: kayfiyyat taḵzīn al-maḥlūmāt fī `ašyā` kammiyya.*

4.1.2.1.1.6 Relative clause

Relative clauses occurred in 9 of 71 active forms, i.e. 12.68% (46.11 per 100,000 words). This was more than double the amount retrieved from the 1997–2000 translated corpus, where it occurred in just 4 of 87 active forms, i.e. 4.60%. For example, in the 2016–18 corpus, 'These films have low number of traps, which are usually generated due to impurities' was translated as *tamtalik haḍhihi al-raqā`iq ṣadadan qalīlan min al-ḥikāḳ, allatī tanṣā` ʿādatan bisababi ṣawā`ib.*

4.1.2.1.1.7 Nominal clause

Nominal clauses also occurred in 9 of 71 active forms, i.e. 12.68% (46.11 per 100,000 words). This was more than double the amount retrieved from the 1997–2000 translated corpus, where it occurred in 4 of 87 active forms, i.e. 4.60%. For example, in the 2016–18 corpus, 'From here on in additional observations are still needed' was translated as *انطلاقاً من هنا، لا تزال هناك حاجة إلى inṭilāqan min hunā, lā tazālu hunāk ḥāja `ilā malḥūḍāt `iḍāfiyya.*

4.1.2.1.1.8 Compound structure

Compound structures occurred in 18 of 71 forms, i.e. 25.35%, (92.23 per 100,000 words). This was similar to the number retrieved from the 1997–2000 translated corpus (21 out of 87 forms), i.e. 24.14%. These included three sub-types, discussed in the subsections below.

4.1.2.1.1.8.1 Verb + verbal noun

This occurred in 5 of 71 active forms, i.e. 7.04% (25.62 per 100,000 words). This is lower than the number retrieved from the 1997-2000 translated corpus (10 of 87 active forms), i.e. 11.49%. For example, ‘We now know, is a moon being flexed and pulled’ was translated as أصبحنا نعرف أن إنسيلا دوس قمر يتعرض للشد والجذب الآن أن *aṣḥabnā naṣrif al-’ān ’an ’insilādūs qamar yataṣarrad lil-šadd wa al-jadb.*

4.1.1.1.1.8.2 Verbal phrase consisting of كان followed by a complement

This occurred in 11 of 71 active forms, i.e. 15.49% (56.36 per 100,000 words). This is higher than the number retrieved from the 1997-2000 translated corpus, 8 out of 87 active forms, i.e. 9.20%. For example, ‘So we were thrilled to greet one such storm in late 2010’ was translated as ومن ثم كان من المثير للغاية بالنسبة لنا أن نشهد إحدى العواصف في أواخر عام 2010 *wa min tumma kān min al-muṭīr lil-ġāya bil-nisbat la-nā ’an nuṣahid ’ihdā al-ṣawāṣif fī ’awākīr ṣām 2010.*

4.1.1.1.1.8.3 Modal structure that consists of يمكن *yumkin* ‘could’, ينبغي *yanbaġī* ‘ought to’, لا بد *lā budd* ‘should’ followed by a verbal noun

This occurred in 2 of 71 active forms, i.e. 2.82% (10.25 per 100,000 words). This is slightly less than in the 1997-2000 translated corpus, where it occurred in 3 of 87 active forms, i.e. 3.45%. For example, ‘The final planet was captured passing only once.’ was translated as وقد أمكن التقاط مرور الكوكب الأخير مرة واحدة فقط *waqad ’amkan iltiqāt murūr al-kawkab al-’akīr marra wahida faqat.*

4.1.2.1.2 Translating the passive form into a passive form

Of the 123 passive forms retrieved from the 2016–2018 English parallel corpus, 52, i.e. 42.28%, were translated into a passive form. This was similar to the 1997–2000 translated corpus, in which these accounted for 61 of 148, i.e. 41.22%. Thus, in the scientific texts examined, the translation of the passive form into passive forms had increased slightly in

frequency between 1997–2000 and 2016–2018. This method included four sub-categories, as discussed below.

4.1.2.1.2.1 Passive verb

This subcategory included most of the occurrences, with 33 of 52, i.e. 63.46%. 33 out of 52 passive forms being translated into passive verbs (169.08 per 100,000 words). This marked a decline since the 1997–2000 translated corpus, where these accounted for 46 of 61, i.e. 75.41%. For example, ‘But this is a first where their thermal characteristics were used as indicators to separate healthy cells from diseased ones’ was translated as لكن هذه هي المرة الأولى التي تُستعمل فيها *lakin hadih hiya al-marra al-’ulā allatī tustaʿmal fī-hā kaṣā’iṣ-hā al-ḥarāriyya kamu’ ašširāt li-faṣl al-ḳalāyā al-salīma ʿan tilk al-marīda.*

4.1.2.1.2.2 Passive participle

This occurred in 10 of 52 passive forms, i.e. 19.23% (51.24 per 100,000 words). This was similar to the 1997–2000 translated corpus, where the passive participle occurred in 11 of 61 passive forms, i.e. 18.03% (40.76 per 100,000 words). For example, ‘The study rooted out others in which mutations are known to cause pigmentation impairments’ was translated as الصبغة التي تحدد لون البشرة والشعر، وبعضها الآخر المعروف بأن طفراته تسبب خللاً في التصبغ *al-ṣabḡa allatī tuḥaddid lawn al-bašra wa al-šaʿr, wa baṣḍu-hā al-’āḳar al-maʿrūf bi’ an ṭafrātu-h tusabbib ḳalalan fī al-taṣabbuḡ.*

4.1.2.1.2.3 Verbal phrase consisting of كان followed by a passive complement

This subcategory included 3 of 52 passive forms, i.e. 5.77% (15.37 per 100,000 words). This was more than in the 1997–2000 translated corpus, where this concerned only 1 of 61, i.e. 1.64%. For example, ‘Previously, the Arabian Peninsula had long been thought to be far from the main stage of human evolution.’ was translated as في السابق، كان يُعتقد أن شبه الجزيرة العربية بعيدة *fī al-sābiq, kān yuʿtqad ’an šibh al-jazīra al-ʿarabiyya baʿīda ʿan al-mawqif al-’asāsī lil-taṭawwur al-bašarī.*

4.1.2.1.2.4 Verbal phrase consisting of كان followed by a passive participle complement

This occurred in 6 of 52 passive forms, i.e. 11.54% (30.74 per 100,000 words). This was more than in the 1997–2000 translated corpus, where it occurred in just 3 of 61, i.e. 4.92%. For example, ‘Space seems like a backdrop to the action of forces and fields that inhabit it but space

itself is not made of anything—or is it?’ was translated as يبدو الفضاء كخلفية لأفعال القوى والمجالات *yabdū al-faḍā’ kaḳalfiyya la’fḳāl al-quwa wa al-majālāt allatī taskunu-h, wa lakin al-faḍā’ fī ḥadd dāti-h lays maṣnūṣan min šay’, ’am ’anna-hu kaḳālik?*

It was observed the strategy of using a verbal phrase consisting of كان *kān* followed by a complement to translate the English passive form had increased – in both the active and the passive forms – between the 1997–2000 and 2016–2018 translated corpora. The rate of English passive forms translated into Arabic active forms had increased from 9.20% to 15.49%, and the rate of English passive forms translated into Arabic passive forms had increased from 6.56% to 17.31%.

4.1.2.2 The structure of the Arabic passive in the 2016-2018 parallel corpus

In total, there were 36 passive verbs in the 2016–2018 parallel corpus, not including the passive participle forms. These clauses can each be identified as either verbal or nominal.

4.1.2.2.1 Verbal clauses

Of the relevant Arabic clauses, 21 of 36, i.e. 58.33% (107.60 per 100,000 words) were verbal clauses. This marks a decrease in the frequency of verbal structures, compared with the 1997–2000 translated corpus (35 out of 47, i.e. 74.47%), where the structures constituted a majority of clauses. One example of a verbal clause retrieved from the corpus is, ‘The fossil was sent around the world to different labs for CT scanning to create a 3D model’, which was translated as أرسلت الأحفورة حول العالم إلى مختبرات مختلفة لفحصها بالأشعة المقطعية لتشكيل نموذج ثلاثي الأبعاد *’ursilat al-’ahḳūra ḥawl al-’ālam ’ilā muḳtabarāt muḳtalifa lifaḳṣi-hā bil-’ašifṣa al-maqṣiyya litaṣkīl namūḳaj tulātī al-’abṣād.*

4.1.2.2.2 Nominal clauses

Almost half of the passive clauses retrieved from the corpus had nominal structures, accounting for 15 of 36, i.e. 44.44% (76.86 per 100,000 words). The 1997–2000 translated corpus had a slightly lower frequency of nominal clauses, at just 12 of 47, i.e. 25.53%). For example, ‘Partial upper jaw bone from Misliya Cave in Israel dates to between 177,000 and 194,000 years ago’ was translated as جزء من عظمة فك علوي عُثر عليها في كهف ميسليا بإسرائيل يرجع إلى الفترة ما بين 177,000

al-kāmina. Another example was, ‘And some of us are so enthralled by this possibility’ was translated as *وقد افنتن بعضنا بهذا الاحتمال wa qad iftatan baṣḍunā bihaḍā al-’iḥtimāl*.

4.1.2.3.1.1.2 بفعل *bi-fiʿl* ‘by the act/fact of’

This also occurred twice out of 4 times, i.e. 50% (10.25 per 100,000 words). For example, ‘Only occasionally being cracked open by extremely high–energy photons’ was translated as *ولا تتعرض للانكسار إلا من حينٍ لآخر بفعل الفوتونات هائلة الطاقة li’ākār bifīʿl al-fōtūnāt hā’ila al-tāqa*.

4.1.2.3.1.2 Grammatical transposition of the ‘by-phrase’

This procedure was used in 8 of 12 cases, i.e. 66.67% (40.99 per 100,000 words), making it more common than the previous procedure. This was similar to the 1997–2000 translated corpus, where grammatical transposition was also used more often than an Arabic equivalent to the agentive passive. However, the percentage in the 2016–2018 corpus was higher, i.e. 66.67%, than that in the 1997–2000 translated corpus (15 out of 24 times), i.e. 62.50%. For example, ‘Grotte des Pigeons was occupied from around 23,000 to 12,000 years ago by the Iberomaurusian culture’ was translated as *في الفترة الممتدة بين 23,000 و 12,000 سنة خلت، كان كهف الحمام خاضعا لاحتلال الإيبيروموريين fi al-fatra al-mumtadda bayn 23,000 wa 12,000 sana ḡalat, kān kahf al-ḡamām ḡaḍiʿan liḡtilāl al-’ibīrūmūriyyīn*. The English passive structure was translated as an active structure, consisting of a verbal phrase followed by its complement, which was an active participle here.

Another procedure not found in the 1997-2000 translated corpus but which occurred twice, i.e. at 16.67%, in this corpus was the translation of the agentive passive as a verbless form. This happens when the English passive is translated using grammatical transposition that results a nominal clause. For example, ‘The team was led by Michael Petraglia at the Max Plank Institute’ was translated as *قائد الفريق مايكل بتراجليا من معهد ماكس بلانك qā’id al-farīq māykal batrājliyā min maṣhad māk blānk*. The word *قائد qā’id* ‘leader’ is a Measure I active participle noun used to convey the sense ‘was led by’.

4.1.2.3.2 The English agentive passive is translated into an Arabic passive form

Of the 13 English agentive passive structures in the 2016-2018 translated corpus, only one, i.e. 7.69% (5.12 per 100,000 words), was translated using the ‘by-phrase’ Arabic equivalent, *على يد ʿalā yadd* ‘by the hand of’. No other procedures were used. This is a significantly lower rate

than in the 1997–2000 translated corpus, where they account for 6 of 30, i.e. 20% (22.23 per 100,000 words). This shows that, in the scientific texts examined, the use of the agentive passive in translated Arabic declined significantly between 1997–2000 and 2016–2018, falling from 9.84% to 1.92%.

4.1.2.3.2.1 Translating the ‘by-phrase’ with an Arabic equivalent (e.g. *bi-wāsiṭat, bi, bi-fiʿl, ʕan ʕarīqi, ʕan*)

4.1.2.3.2.1.1 على *ʕalā yad* ‘by the hand of’

Almost all of the English agentive passive structures that included a ‘by-phrase’ were transformed into active structures during the translation process, accounting for 12 of 13. In the one exception, i.e. 7.69%, the agentive passive was retained in the Arabic translation. Thus, ‘To indicate Levallois tools were invented by modern humans’ was translated as على أنه إشارة *ʕalā ʕanna-h ʕišāra ʕilā ʕanna ʕadawāt lōfālū ʕuḡturiʕat ʕalā yad al-ʕinsān al-ḡadīt.*

4.1.2.4 The passive form context

This section considers the passive structure and the minor changes to the passive context in the 2016–2018 translated corpus

4.1.2.4.1 The use of كان *kān* ‘to be’ and its sisters

The use of *kān* followed by a passive verb or passive participle complement increased from 4 of 61 passive structures, i.e. 6.56% (14.82 per 100,000 words) in the 1997–2000 translated corpus to 9 of 52, i.e. 17.31% (46.11 per 100,000 words), in the 2016–2018 translated corpus. For example, ‘Previously, the Arabian Peninsula has long been thought to be far from the main stage of human evolution’ was translated as في السابق، كان يُعتقد أن شبه الجزيرة العربية بعيدة عن الموقع *fī al-sābiq, kān yuʕtaqad ʕanna šibh al-jazīra al-ʕarabiyya baʕīda ʕan al-mawqīʕ al-ʕasāsī lil-taḡḡawur al-baʕarī.* Here, *kān* is followed by the passive verb *yūʕtaqad*. Another example is, ‘Whether they are installed in ships at sea or embedded in wristwatches’, which was translated as سواء كانت مثبتة في سفن في عرض البحر أو ضمن ساعات اليد *sawā ʕānat muḡabbata fī sufn fī ʕarḡ al-baḡr ʕaw ḡimn sāʕāt al-yad.* *Kān* is followed by the passive participle *muḡabbata*.

4.1.2.4.2 The particle قد *qad*

Of 12, 52 passive structures, i.e. 23.08% (61.48 per 100,000 words) included the particle قد. This is slightly higher than in the 1997-2000 translated corpus, where this only occurred in 13 of 61 passive structures, i.e. 21.31% (48.17 per 100,000 words). For example, ‘The find is reported in a study published today’ was translated as وقد أُشِيرَ إلى هذا الكشف في دراسة نُشرت اليوم *wa qad `ušira `ilā hadā al-kašf fī dirāsa nuširat al-yawm*.

4.1.2.4.3 Conjunctions: أو *wa*, ف *fa*, ثم *tumma*, and أو *aw*

Conjunctions occurred in 19 of the 52 translated passive structures retrieved from the 2016–2018 translated corpus, i.e. 36.54%. Thus, the use of conjunctions had declined significantly from the 1997–2000 translated corpus, falling from 62.30% to 36.54%.

- Almost all the examples retrieved began with the particle و *wa* ‘and’ (18 out of 19, i.e. 94.74%). For example, ‘The fossil itself was directly dated with a technique called uranium series dating—direct dating is a more reliable method’ was translated as وحُدِّدَ عمر الأحفورة نفسها مباشرةً بتقنية التأريخ بتسلسل اليورانيوم-التأريخ المباشر طريقة أكثر موثوقيةً من التأريخ *wa huddid ħumr al-`ahfūra nafsa-hā mubāšaratan bitaqniyat al-ta`rīk bitasalsul al-yurāniyūm - al-ta`rīk al-mubāšar tarīqah `aktar mawtūqiyyatan min al-ta`rīk*. This was interesting because و *wa* is not used as an equivalent to the English ‘and’ and occurred at the beginning of the structure.
- The conjunction ف *fa* ‘and/so’ only appeared once in 19 examples of conjunctions, i.e. 5.26%. Compared with the 1997-2000 translated corpus, the use of ف *fa* dropped significantly from 23.68% to 5.26%. For example, in the 2016–2018 translated corpus, ‘If the species originated in sub-Saharan Africa around 200,000 years ago as was thought’ was translated as فإذا كان الجنس العاقل قد نشأ في أفريقيا جنوب الصحراء الكبرى قبل حوالي 200,000 سنة كما كان يُعتقد *fa `idā kān al-jins al-ḡāqil qad naša `fī `afriqiyā janūb al-ṣaḥrā` al-kubrā qabl ḥawālī 200,000 sana kamā kān yuṣtaqad*.
- There were no instances of other particles, such as ثم *tumma* ‘then’, and أو *aw* ‘or’ in the passive structure in this corpus.

4.1.2.5 Tense and measure of the passive verb

Imperfect passive	15
Measure I	8
Measure II	0
Measure III	0

Measure IV	2
Measure V	0
Measure VI	0
Measure VII	0
Measure VIII	3
Measure IX	0
Measure X	2
Perfect passive	21
Measure I	10
Measure II	5
Measure III	0
Measure IV	3
Measure V	0
Measure VI	0
Measure VII	0
Measure VIII	2
Measure IX	0
Measure X	1

Table 4.10 shows the perfect passive to be the most common verb type, comprising 21 of the 36 passive structures, i.e. 58.33% (107.60 per 100,000 words), with the imperfect passive accounting for the remaining 15, i.e. 41.67% (76.86 per 100,000 words). This was similar to the 1997-2000 translated corpus, where the perfect passive was the most common (27 out of 47 passive structures, i.e. 57.45%), followed by the imperfect passive (20 out of 47 passive structures, i.e. 42.55%). In terms of the frequency of the verb measure, Measure I was the most common in the perfect passive, occurring in 10 of 21 cases, i.e. 47.62%, and in the imperfect passive, where it occurred in 8 of 15 cases, i.e. 53.33%.

4.2 Comparable Corpora Results

The 1997–2000 comparable corpus comprised two sub-corpora: the 1997–2000 original corpus and the 1997–2000 translated corpus. This section focuses on the 1997–2000 original corpus.

4.2.1 1997-2000 Original passive structures

This research used non-fiction scientific articles; and for various reasons, it proved challenging to find appropriate texts in Arabic. First, it was difficult to locate published scientific articles for the period of 1997–2000, as most journals focus on literary and religious writing. Most Arabs published scientific articles in English, unlike social sciences and humanities where they published them in Arabic. The Arab's exposure to the rest of the world was limited, and the scientific texts published in the region were mostly religious in nature. For example, one of the original Arabic texts used in the comparable corpus, which is titled *تُبَّتْ عِلْمِيًّا tubbita ʕilmiyyan* 'Scientifically Proven', uses Quranic verses abundantly and refers to the Prophet SAWS and his teachings, adding a religious feel to the text. In addition, all the texts were in a hard-copy format and needed to be processed by an OCR tool. This made it very challenging to use texts written during this period. For these reasons, plus copyright issues, samples were used for the corpus (see section 3.3.1.7), instead of full texts (this was not the case with the other texts, which were taken from scientific journals and are available in article format). The passive structures were retrieved manually and analysed in an Excel sheet. The English translations of the examples used in this, and the next section are done by the researcher. The 1997–2000 original corpus (16,686 words) was smaller than the 2016–2018 original corpus (20,939 words) and the other 1997–2000 and 2016–2018 parallel corpora (58,009 words and 40,090 words, respectively). In total, six texts were used for the original corpus, with 4 being the smallest number of passive verb occurrences in a text and 32 being the largest. A total of 119 passive verbs were found in the original corpus (see [chapter three: Table 4](#) for more information).

4.2.1.1 The structure of the Arabic passive in the 1997-2000 original corpus

This investigation revealed how native Arabic speakers created passive structures in the 1997–2000 original texts. Passive verbs were found in both the verbal and the nominal clauses.

4.2.1.1.1 Verbal clauses

Of the 119 structures retrieved, 82, i.e. 68.91% (491.43 per 100,000 words), began with a verb. For example, *يُشْرَبُ مَعَ قَدَحِ مَاءٍ قَبْلَ الْإِفْتَارِ yuṣrab maʕa qadḥ mā' qabl al-iftār'* was translated as

‘It is drunk with a cup of water before breakfast’. Here, the verbal clause begins with a passive verb.

4.2.1.1.2 Nominal clauses

The remaining 37 structures, i.e. 31.09% (221.74 per 100,000 words), did not begin with verbs, using other elements instead. **Thus**, "التربيعة" التي تُسمى "الجلسة الشهيرة التي تُسمى" *aw al-jalsa al-šahīra allatī tusammā "al-tarbīʿa"* ‘Or the famous seating position called "squaring"’. The results indicate that the use of verbal clauses exceeded that of nominal clauses.

4.2.1.2 Treatment of the Arabic passive

Treatment of the passive verb:

- A. Passive verb used in Arabic without a ‘by-phrase’ equivalent
- B. Passive verb used in Arabic with a ‘by-phrase’ equivalent (e.g. *bi-wāsiṭat, bi, bi-fiʿl, ʿan ʿan ʿarīqi, ʿan*)

Table 4.11 outlines the treatment of the passive form found in the 1997-2000 original Arabic texts.

4.2.1.2.1 Passive verb used in Arabic without a ‘by-phrase’ equivalent

Almost all of the passive structures found in the 1997-2000 original were agentless, accounting for 118 of 119, i.e. 99.16% (707.18 per 100,000 words). For example, يُشرب مع قذح ماء قبل الافطار *yušrab maʿ qadh māʿ qabl al-ʿiḫḫār* ‘It is drunk with a cup of water before breakfast’.

4.2.1.2.2 Passive verb used in Arabic with a ‘by-phrase’ equivalent (e.g. *bi-wāsiṭat, bi, bi-fiʿl, ʿan ʿarīqi, ʿan*)

There was just one, i.e. 0.84% (5.99 per 100,000 words) agentive passive structure in the 1997-2000 original corpus out of 119 passive forms. Thus, the agentive passive occurred approximately 0.00006 times per 16,686 words (the entire corpus size). This occurrence was *wa fi dirāsa duṣimat min qibal madīnat al-malik ʿabdulʿazīz lilʿulūm wa al-taqniya*, which was translated as ‘And in a study supported by king Abdul Aziz city for science and technology’. Here, the Arabic ‘by-phrase’ equivalent *من قبل* *min qibal* ‘by’ is used in the passive structure.

The smaller number of ‘by-phrase’ equivalents in the 1997–2000 original corpus could be due to the samples being limited in size or to the text genre. In addition, when this corpus is compared with the 2016–2018 original texts, one finds that a passive with an Arabic ‘by-phrase’ equivalent occurred only twice in the 124 passive forms in the latter (9.55 per 100,000 words). Thus, the agentive passive occurred approximately 0.00010 times per 20,939 words. Another explanation is that the passive with an agent marker was intentionally avoided in these texts.

4.2.1.3 The passive form context

This section examines the passive structure and the minor changes to the passive context in the 1997–2000 original corpus.

4.2.1.3.1 The use of كان *kān* ‘to be’ and its sisters

Kān and its sisters were found in the 1997–2000 original corpus, but not before the passive verb or at the start of the passive structure (in any of the 119 passive structures). This was intriguing because *kān* was used with the passive form in both the 1997–2000 and the 2016–2018 parallel corpora. A possible reason for this is that the passive form seems to occur more in the perfect passive tense in the translated corpora. In addition, according to Baker (1998:61), translated texts have a simpler structure compared to the original texts. Hence, instead of using an imperfect passive tense with the passive form, كان *kān* plus a perfect passive form were used.

4.2.1.3.2 The particle قد *qad*

Unlike in the 1997–2000 and 2016–2018 parallel corpora, the particle قد was not common in the 1997–2000 original corpus. It appeared in just 3 of the 119 passive structures, i.e. 2.52% (17.98 per 100,000 words). For example, *فقد قيل حينها إن أولئك الطلاب* *fa qad qīla ḥīnahā ‘inna ‘ūlā’ka al-ṭullāb* was translated as ‘It was said at the time that those students’.

4.2.1.3.3 Conjunctions: أو *wa*, ف *fa*, ثم *tumma*, and أو *aw*

Conjunctions occurred in 70 of the 119 translated passive structures retrieved from the 1997–2000 original corpus, i.e. 58.82%.

- The conjunction أو *wa* ‘and’ accounted for 62 of 70 conjunctions, i.e. 88.57%. For example, *ويطلب من المتعالج أن يتناول هريس الحنطة* *wa yuṭlab min al-mutaḥālij ‘an yatanāwal harīs al-ḥunṭa* was translated as ‘The patient is asked to eat wheat mash’.

- The conjunction *fa* ‘and/so’ accounted for 5 of 70 conjunctions, i.e.7.14%. For example, *مرحلة شديدة النشاط فتعد fa tuṣadd marḥala šadīdat al-našāt* was translated as ‘It is considered a very active phase’.
- The conjunction *tumma* ‘then’ accounted for 2 of 70 conjunctions, i.e.2.86%. For example, *ثم يوصى المريض بالافطار عليه tumma yūṣā al-marīd bil’iftār ḥalay-h.* was translated as ‘Then the patient is recommended to have it as a breakfast’.
- The conjunction *aw* ‘or’ accounted for 1 of 70 conjunctions, i.e.1.43%. Thus, *او الجلسة الشهيرة التي تُسمى "التربيعه" aw al-jalsa al-šahīra allatī tusammā "al-tarbīḥa"* was translated as ‘Or the famous seating position called "squaring"’.

4.2.1.3.4 The use of certain verbs in the passive

The verb *يُعد/تُعد* was the most commonly used passive form in the 1997–2000 original corpus. It occurred in 38 of 119 translated passive structures, i.e. 31.93%. *يعد* is known as a ‘semantically light’ verb that is added for stylistic reasons. The clause still holds its meaning if this ‘semantically light’ verb is deleted or replaced by an adjective or a noun. It occurs at least partly because Arabic prefers a clause that starts with a verb, i.e. a verbal clause, (Dickins and Watson, 1999). This verb was not common in the translated corpora. An example found in the 1997–2000 original corpus is as follows: *علم الوراثة أساس تربية النباتات يعد yuṣadd ḥilm al-wirāta ’asās tarbiyat al-nabātāt* ‘Genetics is considered the basis of plant breeding’.

4.2.1.4 Tense and measure of the passive verb

Sketch Engine was used to retrieve the types of passives in the 1997-2000 original corpus. This was done by manually creating tables that included the title of the article, the passive structures, the measure used, and the number of times the passive occurred in the article. The concordance tool in Sketch Engine was used on the table to retrieve all the required information from the corpus (e.g., the number of times each measure occurred).

Imperfect passive	100
Measure I	66
Measure II	12
Measure III	3
Measure IV	5
Measure V	2
Measure VI	0
Measure VII	0
Measure VIII	0
Measure IX	0
Measure X	12
Perfect passive	19
Measure I	10
Measure II	0
Measure III	1
Measure IV	7
Measure V	0
Measure VI	0
Measure VII	0
Measure VIII	0
Measure IX	0
Measure X	1

Table 4.12 shows the imperfect passive to be the most commonly used verb type, accounting for 100 of 119 passive structures, i.e. 84.03% (599.30 per 100,000 words), followed by the perfect passive, which occurred in 19 of 119 passive structures, i.e. 15.97% (113.87 per 100,000 words). The results show that Measure I was the most common measure for both the imperfect passive, 66 of 100, i.e. 66%, and the perfect passive (10 of 19, i.e. 52.63%). See Table 4.12 for more information.

The 2016-2018 comparable corpus is divided into two sub-corpora: the 2016-2018 original corpus and the 2016-2018 translated corpus. This section focuses on the 2016–2018 original corpus.

4.2.2 2016-2018 Original passive structures

In total, 22 original scientific Arabic articles were included in the 2016–2018 comparable corpus. There was a total of 20,939 words, with passive forms occurring 124 times, i.e. 0.59%. The passive form was found in all articles, with a minimum occurrence of 1 and a maximum of 12. The articles ranged in size, with 409 words being the smallest and 2,616 the largest.

It is important to keep in mind that the author’s style of writing and their knowledge of English could affect how the article was written and the number of passives it contained. Some writers naturally use the passive voice more than others. For example, in one of the original scientific articles, *سبعة كواكب جديدة شبيهة بالأرض sabʿa kawākib jadīda šabīha bil-’arḍ* ‘Seven New Planets Similar to Earth’, the author writes in an interview style. The style is personal, and the author involves himself and his team in the research and uses phrases such as *وأنا متأكد wa’nā muta’akkid* ‘and I’m sure’, *ينقصنا yanquṣnā* ‘we are missing’, *لنصل linaṣil* ‘we reach’, and *بالنسبة لي شخصياً bil-nisba līšaḡṣṣyan* ‘for me personally’. Only 2 passives were retrieved from this article, which consisted of 1,167 words. Other articles of similar word counts included more occurrences of the passive form. For example, the article *مستوى سطح البحر يرتفع بوتيرة أسرع مما يُعتقد mustawā saḡḡ al-baḡr yartaḡiḡ biwatīra ’asraḡ mimḡa yuḡtaḡad* ‘The Sea Water Level Rising at a Rate Higher Than Previously Thought’ comprised 1,260 words, and 5 passive structures were retrieved. This would be worth investigating in future research (see [chapter three: Table 5](#) for more information).

4.2.2.1 The structure of the Arabic passive in the 2016-2018 original corpus

Passive forms occurred in both verbal and nominal clauses, as discussed in the following sections.

4.2.2.1.1 Verbal clause

Of the 124 structures, 75 began with a verb, i.e. 60.48% (358.18 per 100,000 words). For example, *يُطلق عليها المُضغَة- التي تُشكّل الجنين في وقت لاحق yuṭlaḡ ʿalay-hā al-muḡḡa- allatī tuṣakkil al-janīn fī waḡt lāḡiq* was translated as ‘It is called the embryo - which forms the embryo at a

later time'. Thus, the number of verbal clauses had decreased, compared to the 1997–2000 original corpus, where verbal clauses comprised 68.91% of the clauses (491.43 per 100,000 words).

4.2.2.1.2 Nominal clause

Of the 124 structures, 49 did not begin with a verb, using other elements instead, i.e. 39.52% (234.01 per 100,000 words). For example, *فِي دراسة أُجريت فِي الولايات المتحدة الأمريكية* *fī dirāsa 'ujriyat fī al-wilāyāt al-muttaḥida al-'amrīkiyya*, was translated as 'In a study conducted in the United States of America'. This is a nominal clause that begins with a prepositional phrase *فِي دراسة* 'in a study'. The 1997–2000 original corpus included a lower percentage of nominal clauses than the 2016–2018 original corpus, with 31.09% (221.74 per 100,000 words).

4.2.2.2 Treatment of the Arabic passive

Treatment of the passive verb:

- A. Passive verb used in Arabic without a 'by-phrase' equivalent
- B. Passive verb used in Arabic with a 'by-phrase' equivalent (e.g. *bi-wāsiṭat, bi, bi-fīfl, ṣan ṭarīqi, ṣan*)

Table 4.13 outlines the treatment of the passive form found in the 2016–2018 original Arabic texts.

4.2.2.2.1 Passive verb used in Arabic without a 'by-phrase' equivalent

The great majority of the passive structures retrieved from the 2016–2018 original corpus were agentless passives (122 out of 124), i.e. 98.39%. One example is *تُقَدَّرُ بِحَوَالِي 261 مِلْيُونِ كِيلُومِتْرٍ* *tuqaddaru biḥawālī 261 milyūn kilūmitir*, was translated as 'It is estimated at about 261 million km'. For comparison, the 1997-2000 original corpus had an even higher percentage of agentless passives, i.e. i.e. 99.16%.

4.2.2.2.2 Passive verb used in Arabic with a 'by-phrase' equivalent (e.g. *bi-wāsiṭat, bi, bi-fīfl, ṣan ṭarīqi, ṣan*)

Of the 124 passive structures, 2, i.e. 1.61%, had a 'by-phrase' equivalent (9.55 per 100,000 words). This was an increase from the 1997–2000 comparable corpus, where only 1 agentive

passive was retrieved from 119 passive forms (5.99 per 100,000 words). Two ‘by-phrase’ equivalents were used: بواسطة *bi-wāsiṭat* ‘by means of’, and من قبل *min qibal* ‘by’. The ‘by-phrase’ equivalent بواسطة *bi-wāsiṭat* ‘by means of’ was also used in the 1997–2000 translated corpus, whereas من قبل *min qibal* ‘by’ was only found in the 1997–2000 original corpus. For example, إن الثقب صُنِعَ بواسطة آلة حادة, *inna al-tuqba suniṭ bi-wāsiṭat āla ḥādda* ‘The hole is made by a sharp tool’. The agent ‘sharp tool’ was introduced using an equivalent to the English ‘by’, which suggests a similarity with the English agentive passive structure. The other example is صُمِّمَ تلسكوب جيمس ويب الفضائي من قِبَل مركز غودارد *ṣummim tiliskūb jayms wayb al-faḍā’ī min qibal markaz ḡōdārd* ‘The James Webb Space Telescope was designed by the Goddard Centre’. Both translations would have sounded more natural if they had been written as active structures because the passive structures do not serve any purpose here (as mentioned in section 2.3.5).

4.2.2.3 The passive form context

The passive form context is discussed in the sections below.

4.2.2.3.1 The use of كان *kān* ‘to be’ and its sisters

Kān occurred only once out of 124 passive structures, i.e. 0.81% (4.78 per 100,000). This example was, والبيضة كان زلالها يُستخدم لمنع عوامل الطقس *wa al-bayḍa kān zulālu-hā yustaḡdam limanṣ ṣawāmil al-ṭaqs* ‘And the egg’s albumen was used to prevent weather factors’. The passive verb يُستخدم *yustaḡdam* is a *kān* complement. A less than 1% increase does not suggest a strong influence from the translated texts.

4.2.2.3.2 The particle قد *qad*

The use of the particle قد increased marginally – from 3 of 119 passive structures, i.e. 2.52% (17.98 per 100,000 words) in the 1997–2000 original corpus to 4 of 124, i.e. 3.23% (19.10 per 100,000 words). This suggests the influence of the translated texts was not substantial. One example was found in قد وُجِدَت في أي وقت مضى على سطح المريخ *qad wujidat fī ‘ayyi waqt maḍā ṣalā saṭḥ al-mirrīk* ‘Has it ever been found on the surface of Mars’.

4.2.2.3.3 Conjunctions: و *wa*, ف *fa*, ثم *tumma*, and أو *aw*

Conjunctions occurred in 42 of the 124 translated passive structures retrieved from the 2016–2018 original corpus, i.e. 33.87%. The number of conjunctions decreased from the total of the 1997–2000 original corpus (70 out of the 119, i.e. 58.82%).

- The conjunction *wa* ‘and’ occurred in 34 out of the 42 clauses beginning with a conjunction, i.e. 80.95%. The conjunction *wa* ‘and’ occurred more often in the 1997–2000 original corpus (62 out of 70, i.e. 88.57%) than in the 2016-2018 original corpus (80.95%). For example, “*وَأُدْعَى "فينوس أكسبريس" wa tudʿā "fīnūs `xbrīs"*” was translated ‘It is called “Venus Express”’.
- The conjunction *fa* ‘and/so’ occurred in 5 of 42 conjunctions, i.e. 11.90%, which was higher than the 5 of 70 (i.e. 7.14%) retrieved from the 1997-2000 original corpus. For example, “*فَوْقَ دراسة علمية نُشرت مؤخرًا في دورية "نيتشر كوميونيكيشن" fa wifqa dirāsa ʿilmiyya nuširat mu`aḳḳaran fī dawriyyat "nētšar kawmyūnikīšan"*” ‘According to a scientific study recently published in the journal *Nature Communications*’.
- The conjunction *tumma* ‘then’ did not appear in this corpus with the passive structure.
- The conjunction *aw* ‘or’ occurred in 3 of 42 conjunctions, i.e. 7.14%. This was higher than in the 1997-2000 original corpus, where it accounted for just 1 of 70 *aw* conjunctions, i.e. 1.43%. For example, “*أَوْ مَا يُعْرَفُ بِالصَّبَاحِ الْيَدِيّ فَرَقَ جِهْدَ 5 فُولْتِ aw mā yuʿraf bil-miṣbāḥ al-līd dī farq jahd 5 fōlt*” was translated as ‘Or what is known as the LED lamp with a voltage difference of 5 volts’.

4.2.2.3.4 The use of certain verbs as a passive

The verb *يُعد/تُعد* was the most common passive verb in the 2016–2018 original corpus, occurring in 27 of 124 passive structures, i.e. 21.77%. It occurred in most of the scientific articles. This was similar to the 1997–2000 original corpus, where it occurred in 38 of 119 translated passive structures, i.e. 31.93%. For example, “*يُعد ثاني أقرب الكواكب للشمس yuʿadd tānī `aqrab al-kawākib lil-šams*” ‘It is considered the second closest planet to the sun’. This was notable because the verb did not occur in the 1997–2000 translated texts and occurred only once out of 61 passive structures, i.e. 1.64% in the 2016-2018 translated texts.

4.2.2.4 Tense and measure of the passive verb

As with the 1997–2000 original corpus, Sketch Engine was used to retrieve information from the 2016–2018 original corpus.

Imperfect passive	82
Measure I	47
Measure II	11
Measure III	1

Measure IV	5
Measure V	0
Measure VI	0
Measure VII	0
Measure VIII	6
Measure IX	0
Measure X	12
Perfect passive	42
Measure I	21
Measure II	2
Measure III	1
Measure IV	14
Measure V	0
Measure VI	0
Measure VII	0
Measure VIII	1
Measure IX	0
Measure X	3

Table 4.14 shows the imperfect passive to be the most commonly used verb type, accounting for 82 of 124 passive structures, i.e. 66.13% (391.61 per 100,000 words), followed by the perfect passive (42 out of 124, i.e. 33.87%). There was a decrease in imperfect passive use when compared to the 1997–2000 original corpus, where the imperfect passive occurred in 100 of 119 passive structures, i.e. 84.03% (599.30 per 100,000 words). Measure I was the most common measure in both the imperfect passive, with 47 of 82, i.e. 57.32%, and the perfect passive, with 21 of 42, i.e. 50%. (See Table 4.14 for more information.)

4.3 Parallel and Comparable Corpora Results

I have compared the 1997-2000 parallel corpus with the 2016-2018 parallel corpus, and the 1997-2000 original corpus with the 2016-2018 original corpus in previous sections. In this section, the 1997-2000 and 2016-2018 parallel corpora (including their two sub-corpora: English texts and their Arabic translations) and the 1997-2000 and 2016-2018 comparable corpora (including their two sub-corpora: the original texts and the translated texts) are compared.

4.3.1 Similarities and differences between the translation procedures used by the translators in the 1997-2000 and 2016-2018 translated corpora (parallel corpus)

1997-2000 Arabic translated parallel corpus →	2016-2018 Arabic translated parallel corpus
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Table 4.15 outlines the sub-corpus that will be analysed in this section.

In both the 1997-2000 and 2016-2018 translated corpora, converting the English passive into an active structure was more common (58.78% and 57.72%, respectively) than translation into a passive structure (41.22% and 42.28%, respectively). The use of the active verb as a procedure to translate the passive structure decreased from 39.08%, in the 1997-2000 translated corpus, to 16.90% in the 2016-2018 translated corpus. There was an increase in use of some translation procedures, such as medio-passive (1.15% and 8.45%, respectively), nominal clause (4.60% and 12.68%, respectively), relative clause (4.60% and 12.68%, respectively), verbal noun (5.75% and 11.27%, respectively), and verbal phrase followed by its complement (9.20% and 15.49%, respectively). Other translation procedures stayed at similar levels, and these included the active participle (8.05% and 9.86%, respectively), the “be accomplished” verb (3.45% and 2.82%, respectively), and a modal verb followed by a verbal noun (3.45% and 2.82%, respectively). Between the 1997-2000 and the 2016-2018 translated corpora, the procedure of using a verb followed by a verbal noun became less common (11.49% and 7.04%, respectively). The procedure of using an adverbial phrase followed by a verbal noun was found only in the 1997-2000 translated corpus (9.20%).

A number of procedures were utilised to translate the English passive into a passive structure. The procedure of translating the English passive form as an Arabic passive verb in a passive structure became less common between 1997–2000 and 2016–2018, declining from 75.41% to

63.46%, whereas the use of a verbal phrase followed by a passive form (passive verb or passive participle) complement increased (6.56% and 17.31%, respectively). The use of the passive participle to translate the English passive stayed at a similar level (18.03% and 19.23% respectively). (See Table 4.16 for more information.)

			1997-2000 Translated passive structures	2016-2018 Translated passive structures	
Active	Active participle		8.05%	9.86%	
	Medio-passive		1.15%	8.45%	
	Active verb		39.08%	16.90%	
	"Be accomplished" verb		3.45%	2.82%	
	Nominal clause		4.60%	12.68%	
	Relative clause		4.60%	12.68%	
	Verbal noun		5.75%	11.27%	
	Compound structure	Verbal phrase followed by its complement		9.20%	15.49%
		Modal verb followed by verbal noun (or an active participle)		3.45%	2.82%
		Verb + verbal noun		11.49%	7.04%
Other procedures	Adverbial phrase + a verbal noun		9.20%		
Passive and reduced passive	Passive verb		75.41%	63.46%	
	Passive participle		18.03%	19.23%	
	Verbal phrase followed by its complement (a passive participle)		4.92%	11.54%	
	Verbal phrase followed by its complement (a passive)		1.64%	5.77%	

Table 4.16 outlines the procedures used to translate the English passive form in the 1997-2000 and 2016-2018 translated corpora.

4.3.2 The structure of the Arabic passive in the 1997-2000 and 2016-2018 translated and original corpora (comparable corpus)

1997-2000 Original corpus →	1997-2000 Translated parallel corpus
2016-2018 Original corpus →	2016-2018 Translated parallel corpus
1997-2000 Original corpus →	2016-2018 Original corpus
1997-2000 Translated parallel corpus →	2016-2018 Translated parallel corpus

Table 4.17 outlines the sub-corpora that will be analysed in this section.

Comparing the structure of the passive in terms of verbal and nominal clauses in the original corpora with the structure of the passive in the translated corpora revealed interesting results. In passive structures, the number of verbal clauses in the 1997-2000 translated corpus (74.47%) exceeds that of verbal clauses in the other corpora. Specifically, in the 1997–2000 and 2016–2018 translated corpora, verbal clauses accounted for 35 of 47, i.e. 74.47%, and 21 of 36, i.e. 58.33%, respectively; whereas in the 1997-2000 and 2016-2018 original corpora, the frequency of verbal clauses decreased from 82 of 119, i.e. 68.91%, to 75 of 124, i.e. 60.48%, respectively. The results show that the number of passive clauses with an initial verb (verbal clauses) had decreased in both the original and translated corpora. However, the number of verbal clauses was significantly higher than the number of nominal clauses in all corpora; thus the gradual decrease suggests an influence of translation. The percentage of verbal clauses decreased from 68.91% in 1997-2000 to 60.48% in 2016-2018 original corpus.

This also confirms what was previously said (in section [4.1.1.2](#)) about nominal structures increasing in frequency. However, it is possible that the higher number of verbal clauses is unique to the passive structure as most passive structures include a passive verb. More research is needed in this area to determine whether certain forms of clauses are more likely to have an initial verb.

The remaining passive structures were nominal in all corpora. In the 1997-2000 and 2016-2018 original corpora, nominal passive clauses occurred in 37 of 119 passive clauses (i.e. 31.09%) and 49 of 124 passive structures (i.e. 39.52%), respectively. In addition, they occurred in 12 of 47 passive clauses (i.e. 25.53%) and 15 of 36 (i.e. 44.44%) in the 1997-2000 and 2016-2018 translated corpora, respectively. It is interesting that the percentages of nominal clauses in the 1997-2000 original and translated corpora were lower than those in the 2016-2018 original and translated corpora. One possible reason is the influence of the English structure on the original and translated Arabic structures over time, which has been decreasing the passive structures starting with a verb (see Table 4.18 for more information).

	1997–2000 Translated corpus	2016–2018 Translated corpus	1997–2000 Original corpus	2016–2018 Original corpus
Size of corpus	26,990	19,517	16,686	20,939
Number of passive verbs	47	36	119	124
Initial verb	35	21	82	75
Percentage	74.47%	58.33%	68.91%	60.48%
Occurrence per 100,000	129.68	107.60	491.43	358.18
Initial non-verb	12	15	37	49
Percentage	25.53%	41.67%	31.09%	39.52%
Occurrence per 100,000 words	44.46	76.86	221.74	234.01

Table 4.18 outlines the number of passive structures starting with a verb and the number of passive structures starting with another grammatical element in 1997–2000 and 2016–2018 translated and original corpora.

4.3.3 The treatment of the agentive passive verb in the translated and original corpora (parallel and comparable corpus)

1997-2000 Original corpus →	2016-2018 Original corpus
1997-2000 Translated parallel corpus →	2016-2018 Translated parallel corpus
1997-2000 and 2016-2018 Original corpus →	1997-2000 and 2016-2018 Translated parallel corpus
1997-2000 English corpus	2016-2018 English corpus

Table 4.19 outlines the sub-corpora that will be analysed in this section.

The use of the agentive passive differed depending on the type of the text (original versus translated), the time period (1997–2000 versus 2016–2018), and the language use (Arabic versus English). In the 1997-2000 original corpus, the agentive passive only occurred once in 119 passive verbs (5.99 per 100,000 words), while it occurred twice in 124 passive verbs (9.55 per 100,000 words) in the 2016-2018 original corpus. Its use was highest in the 1997-2000 translated corpus (6 out of 61 passive forms, i.e.9.84%), and it saw a decline in the 2016-2018 translated corpus to just 1 agentive passive of 52 passive forms, i.e. 1.92%. This is noteworthy because the agentive passive was more common in the 1997-2000 translated corpus than in the original corpus for the same period, but less common in the in the 2016-2018 translated corpus (5.12 per 100,000 words) than in the original corpus of the same period (9.55 per 100,000

words). This calculation does not include English agentive passive forms that were translated as active structures with a ‘by-phrase’ equivalent. (See Tables 4.15, 4.16, 4.17 and 4.18 for more information.)

	1997–2000 Translated passive structures	2016–2018 Translated passive structures
‘By-phrase’ appeared in an active structure	24	12
‘By-phrase’ appeared in a passive structure	6	1

Table 4.20 shows the number of ‘by-phrase’ passives that were translated into active and passive forms in both the 1997-2000 and 2017-2018 translated corpora.

	1997–2000 Translated passive structures	2016–2018 Translated passive structures
‘By-phrase’ appears in an active structure	24	12
‘By-phrase’ equivalent	9	4
Grammatical transposition	15	8
‘By-phrase’ appears in a passive structure	6	1
‘By-phrase’ equivalent	6	1

Table 4.21 shows how the English ‘by-phrase’ passives were translated into Arabic in the 1997-2000 and 2017-2018 translated corpora.

		1997–2000 Original passive structures	2016–2018 Original passive structures	1997–2000 Translated passive structures	2016–2018 Translated passive structures
‘by-phrase’	‘By-phrase’ equivalent	1	2	15	5
	Grammatical transposition of the ‘by-phrase’	0	0	15	8
	Total number	1	2	30	13

Table 4.22 shows how often the Arabic ‘by-phrase’ equivalent was used instead of grammatical transposition in all the 1997–2000 and 2017-2018 original and translated corpora.

	Parallel corpora				Comparable corpora	
	1997–2000 English corpus	1997–2000 Translated corpus	2016–2018 English corpus	2016–2018 Translated corpus	1997–2000 Original corpus	2016–2018 Original corpus
Total number of words	31,019	26,990	20,573	19,517	16,686	20,939
The number of agentive passives	30	6	13	1	1	2
Agentive passive occurrences in relation to the size of the corpus	0.000967149	0.0002223	0.0006319	5.12374E-05	5.993E-05	9.5516E-05
Occurrence per 100,000 words	96.71	22.23	63.19	5.12	5.99	9.55

Table 4.23 presents the frequency of occurrence of the agentive passive in each sub-corpus. The formula used to calculate occurrence in relation to the size of the respective corpus was as follows: $\frac{\text{the number of the agentive passive forms in a corpus}}{\text{the number of words of that corpus}}$.

The formula for occurrences per 100,000 words was as follows: $\frac{\text{the number of agentive passives in a corpus}}{\frac{\text{the size of that corpus}}{100,000}}$.

The results show that the agentive passive had the highest frequency in the 1997-2000 English corpus, followed by the 2016-2018 English corpus (see Table 4.23). In addition, the number of agentive passives in the English texts decreased between 1997-2000 and 2016-2018 (from 96.71 to 63.19 per 100,000 words). The agentive passive was used the least in the 2016-2018 translated corpus (96.71 per 100,000 words), followed by the 1997-2000 original corpus (63.19 per 100,000 words). This confirms that the agentive passive is more common in English than in Arabic. The table also shows a decline in the use of the agentive in the translated texts between 1997-2000 and 2016-2018 (from 22.23 to 5.12 per 100,000 words), alongside a slight increase in the use of the agentive passive in the original texts (from 5.99 to 9.55 per 100,000 words). The original corpora reflect a change in the passive voice (between 1997-2000 to 2016-2018), but only marginally and – to this researcher’s knowledge – only in the genre of scientific writing.

4.3.4 The frequency of the use of the passive verb in the 1997-2000 and 2016-2018 English and original corpora

1997-2000 English parallel corpus →	1997-2000 Original corpus
2016-2018 English parallel corpus →	2016-2018 Original corpus

Table 4.24 outlines the sub-corpora that will be analysed in this section.

It is generally believed that the passive is used less frequently in Arabic than in English (as mentioned previously in chapter two, section 2.3.13.4). However, this assumption was not borne out by the results reported from the 1997–2000 and 2016–2018 parallel and comparable corpora. A comparison of the English passive verbs in the 1997–2000 parallel corpus with the Arabic passive verbs in the 1997–2000 original corpus revealed that passive verbs were slightly more frequent in the Arabic original corpus. They occurred 148 times, i.e. 0.477% (477.13 per 100,000 words) in the English texts (31,019 words), and 119 times, i.e. 0.713% (713.17 per 100,000 words) in the Arabic texts (16,686 words). However, the frequency of the passive verbs in the 2017-2018 English parallel corpus is slightly higher than the frequency of the passive verbs in the 2017-2018 original corpus. The passive verb occurred 123 times, i.e. 0.598% (597.87 per 100,000 words) in the English texts (20,573 words), and 124 times, i.e. 0.592% (592.20 per 100,000 words) in the Arabic texts (20,939 words). The results show an increase in English passive-verb use between 1997-2000 and 2016-2018 (from 477.13 per 100,000 words to 597.87 per 100,000 words). Addressing this issue from a more general perspective would require more in-depth research using larger corpora.

At the same time, there was a decrease in Arabic passive-verb use between 1997-2000 and 2016-2018 (from 713.17 per 100,000 words to 592.20 per 100,000 words). This confirms the previous claim (in section 3.3.1.3.2) that the use of the passive form is in decline. (See Table 4.25, below, for more information.)

	1997–2000 English corpus	2016–2018 English corpus	1997–2000 Original corpus	2016–2018 Original corpus
Total number of words	31,019	20,573	16,686	20,939
Number of passive verbs	148	123	119	124
Occurrence per 100,000 words	477.13	597.87	713.17	592.20
Percentage	0.477%	0.598%	0.713%	0.592%

Table 4.25 details the number of passive verbs (excluding other passive forms, such as passive participles) in every corpus, the size of that corpus, the number of occurrences per 100,000 words, and the percentage of passive verbs.

4.3.5 The passive form context in the 1997-2000 and 2016-2018 original and translated corpora (comparable corpus)

The following sections detail the passive form context in the 1997-2000 and 2016-2018 original and translated corpora (comparable corpus).

4.3.5.1 The use of كان *kān* ‘to be’ and its sisters

As mentioned, the use of *kān* increased between 1997-2000 and 2016-2018 in the Arabic translated texts – from 4 of 61 passive structures, including the passive verb and passive participle, i.e. 6.56% (14.82 per 100,000 words), to 9 of 52, i.e. 17.31% (46.11 per 100,000 words). The use of *kān* followed by its complement in an active structure also increased between the 1997-2000 and 2016-2018 translated corpora – from 9.20% to 15.49%, respectively. (See Table 4.16 for more information.)

The increasing use of *kān* was not mirrored in the 1997-2000 original corpus, and it only occurred once in 124 passive structures, i.e. 0.81% (4.78 per 100,000) in the 2016-2018 original corpus. This suggests no influence of English translation.

4.3.5.2 The particle قد *qad*

This particle was used in the 1997-2000 and 2016-2018 parallel corpora, accounting for 13 of 61 occurrences in the translated passive structures, i.e. 21.31% (48.17 per 100,000 words) and 12 of 52, i.e. 23.08% (61.48 per 100,000 words), respectively. In the 1997-2000 and 2016-2018 original corpora, it appeared only 3 times in 119 occurrences (i.e. 2.52%; 17.98 per 100,000

words) and 4 times in 124 occurrences (i.e. 3.23%; 19.10 per 100,000 words), respectively. The use of the particle *qad* in translated texts did not change significantly between the 1997-2000 and 2016-2018 original corpora. This suggests that the use of the particle *qad* remained relatively stable, and its common use in the translated texts did not influence the original texts. (See Table 4.26 for more information.)

	1997–2000 Translated corpus	2016–2018 Translated corpus	1997–2000 Original corpus	2016–2018 Original corpus
The size of the corpus	26,990	19,517	16,686	20,939
The number of passive forms	61	52	119	124
<i>qad</i>	13	12	3	4
Percentage of passive forms	21.31%	23.08%	2.52%	3.23%
Occurrence per 100,000 words	48.17	61.48	17.98	19.10

Table 4.26 outlines the number of passive forms in which the particle *qad* occurred in all corpora.

4.3.5.3 Conjunctions: *wa*, *fa*, *tumma*, and *aw*

The results show that conjunctions were the most common grammatical element in all 1997–2000 and 2016–2018 translated and original corpora. In the 1997–2000 and 2016–2018 translated corpora, conjunctions occurred in 38 of 61 and 19 of 52 passive forms, respectively. The number of conjunctions decreased between 1997-2000 and 2016-2018 from 62.30% to 36.54%. The most common particle in the 1997-2000 translated corpus was *wa*, which occurred with 73.68% of passive structures, followed by *fa*, with 23.68%, then *tumma* with 2.63%. This was similar to the 2016-2018 translated corpus, where *wa*, at 94.74%, was dominant, followed by *fa*, at 5.26%. *tumma* and *aw* do not appear in this corpus. The results also show an increased use of the particle *wa*, at 94.74%, compared with the 1997-2000 translated corpus, at 73.68%.

In the 1997-2000 and 2016-2018 original corpora, conjunctions occurred with 70 of 119 passive structures and 42 of 124, i.e. 67.96% and 46.67%, respectively. As with the 1997-2000 and 2016-2018 translated corpora, the number of conjunctions decreased between 1997-2000 and 2016-2018 from 58.82% to 33.87%, respectively.

The most common particle in 1997-2000 original corpus is *wa*, at 88.57%, followed by *fa*, at 7.14%, *tumma*, at 2.86%, then *aw*, at 1.43%. This was similar to the 2016-2018 original corpus, where *wa*, at 80.95%, was the most common conjunction, followed by *fa*

fa, at 11.90%, and *أو aw*, at 7.14%. *ثم tumma* did not appear in this corpus. The results also show a decrease in the use of the particle *و wa*, at 80.95%, compared with the 1997-2000 translated corpus, at 88.57%, as well as an increase of the particles *ف fa*, at 11.90% and *أو aw*, at 7.14%, compared with the 1997-2000 translated corpus (where they are found in 7.14% and 1.43%, respectively).

A comparison of the 1997–2000 and 2016–2018 translated corpora with the 1997–2000 and 2016–2018 original corpora produced similar results. Both the 1997-2000 translated and original corpora make greater use of conjunctions (62.30% and 58.82%, respectively) than the 2016-2018 translated and original corpora (36.54% and 33.87%, respectively). This could suggest the influence of English structure on the original and translated Arabic structures over time. However, more research is needed to confirm this. (See tables 4.27 and 4.28 for more information.)

	1997–2000 Translated corpus	2016–2018 Translated corpus	1997–2000 Original corpus	2016–2018 Original corpus
The size of the corpus	26,990	19,517	16,686	20,939
The number of passive forms	61	52	119	124
Conjunction	38	19	70	42
و <i>wa</i>	28	18	62	34
ف <i>fa</i>	9	1	5	5
ثم <i>tumma</i>	1	0	2	0
أو <i>aw</i>	0	0	1	3

Table 4.27 outlines the number of conjunctions occurring with the passive forms in all corpora.

	1997–2000 Translated corpus	2016–2018 Translated corpus	1997–2000 Original corpus	2016–2018 Original corpus
The size of the corpus	26,990	19,517	16,686	20,939
The number of passive forms	61	52	119	124
Conjunction	62.30%	36.54%	58.82%	33.87%
و <i>wa</i>	73.68%	94.74%	88.57%	80.95%
ف <i>fa</i>	23.68%	5.26%	7.14%	11.90%
ثم <i>tumma</i>	2.63%	0.00%	2.86%	0.00%
أو <i>aw</i>	0.00%	0.00%	1.43%	7.14%

Table 4.28 outlines the percentage of conjunctions occurring with the passive forms in all corpora.

4.3.6 Comparison in the tense and measure of passive verbs in the 1997-2000 and 2016-2018 original and translated corpora (comparable corpus)

A comparison of the translated and original texts in terms of the measure of the passive verb revealed that Arabic favoured the imperfect passive in both the 1997–2000 and the 2016–2018 original corpora, whereas the translated texts in the 1997-2000 and 2016-2018 parallel corpora favoured the perfect passive.

Out of the 119 passive verbs in the 1997-2000 original corpus, the imperfect passive occurred 100 times, i.e. 84.03% (599.30 per 100,000 words) and the perfect passive 19 times, i.e. 15.97% (113.87 per 100,000 words). Out of 124 passive verbs in the 2016-2018 original corpus, the imperfect passive accounted for 82, i.e. 66.13% (391.61 per 100,000 words) and the perfect passive 42, i.e. 33.87% (200.58 per 100,000 words). Thus, the imperfect passive was substantially more common than the perfect passive in both original corpora (599.30 per 100,000 words and 391.61 per 100,000 words). In addition, the use of the imperfect passive declined from 84.03% in the 1997–2000 original corpus to 66.13% in the 2016–2018 original corpus. This could suggest the influence of translated texts, which showed a preference for the perfect passive, as such texts in our study made greater use of the perfect passive.

Out of the 47 passive verbs (excluding other passive forms such as the passive participle) in the 1997-2000 translated corpus, the imperfect passive accounted for 20, i.e. 42.55% (74.10 per 100,000 words) and the perfect passive 27, i.e. 57.45% (100.04 per 100,000 words). Of the 36 passive verbs (excluding other passive forms such as the passive participle) in the 2016-2018 translated corpus, the imperfect passive accounted for 15, i.e. 41.67% (76.86 per 100,000 words) and the perfect passive 21, i.e. 58.33% (107.60 per 100,000 words). The results show that the perfect passive was slightly more common than the imperfect passive in both translated corpora. They also show that the use of the perfect passive remained at roughly the same level in the 1997–2000 and 2016–2018 translated corpora, with 42.55% and 41.67%, respectively.

It would be interesting to explore whether this held true for texts older than 1997–2000 and texts belonging to different genres. In both the 1997-2000 and 2016-2018 original corpora, the imperfect passives Measure I was the most common. This accounted for 66.00% (1997–2000) and 57.32% (2016–2018) of all the imperfect passives. This was similar in the 1997-2000 and 2016-2018 translated corpora, where it made up 35.00% and 53.33% of all imperfect measures,

respectively. However, Measure II (40.00%) was more common than Measure I (35.00%) in the 1997–2000 translated corpus.

In the 1997-2000 and 2016-2018 original corpora, the perfect passive Measure I was the most common. This accounted for 52.63% (1997–2000) and 50% (2016–2018) of all the perfect passives. This was the same for the 1997–2000 and 2016–2018 translated corpora, where they accounted for 48.15% and 47.62%, respectively, of all the perfect passives.

The results show that all texts in the original and parallel corpora avoided certain verb measures – specifically Measure VI, Measure VII, and Measure IX in the imperfect passive and Measure V, Measure VI, Measure VII, and Measure IX in the perfect passive. This was expected because these measures rarely occur in the passive.

To conclude this section, as mentioned previously, the data results suggest that there was a decrease in the imperfect passive between the 1997-2000 and 2016-2018 in original corpora (from 84.03% to 66.13%, respectively). (See Table 4.29 and Table 4.30 for more information.)

	<u>1997-2000</u> <u>Original corpus</u>	<u>1997-2000</u> <u>Translated corpus</u>	<u>2016-2018</u> <u>Original corpus</u>	<u>2016-2018</u> <u>Translated corpus</u>
Imperfect passive	100	20	82	15
Measure I	66	7	47	8
Measure II	12	8	11	0
Measure III	3	0	1	0
Measure IV	5	2	5	2
Measure V	2	0	0	0
Measure VI	0	0	0	0
Measure VII	0	0	0	0
Measure VIII	0	2	6	3
Measure IX	0	0	0	0
Measure X	12	1	12	2
Perfect passive	19	27	42	21
Measure I	10	13	21	10
Measure II	0	4	2	5
Measure III	1	0	1	0
Measure IV	7	7	14	3
Measure V	0	0	0	0
Measure VI	0	0	0	0
Measure VII	0	0	0	0
Measure VIII	0	2	1	2

Measure IX	0	0	0	0
Measure X	1	1	3	1

Table 4.29 shows the number of verbs that occurred in each tense and measure in the 1997-2000 and 2016-2018 parallel and comparable corpora.

	1997–2000 Original corpus	1997–2000 Translated corpus	2016–2018 Original corpus	2016 – 2018 Translated corpus
Imperfect passive	599.30	74.10	391.61	76.86
Measure I	395.54	25.94	224.46	40.99
Measure II	71.92	29.64	52.53	
Measure III	17.98		4.78	
Measure IV	29.97	7.41	23.88	10.25
Measure V	11.99			
Measure VI				
Measure VII				
Measure VIII		7.41	28.65	15.37
Measure IX				
Measure X	71.92	3.71	57.31	10.25
Perfect passive	113.87	100.04	200.58	107.60
Measure I	59.93	48.17	100.29	51.24
Measure II		14.82	9.55	25.62
Measure III	5.99		4.78	
Measure IV	41.95	25.94	66.86	15.37
Measure V				
Measure VI				
Measure VII				
Measure VIII		7.41	4.78	10.25
Measure IX				
Measure X	5.99	3.71	14.33	5.12

Table 4.30 shows the number of occurrences per 100,000 words of each verb tense and measure in the 1997-2000 and 2016-2018 parallel and comparable corpora.

To summarise, this chapter focuses on answering the research questions and is divided into three main parts: the parallel corpora results, the comparable corpora results, and the parallel and comparable corpora results. The parallel corpora results section presents the translation procedures used by the translators, the Arabic passive structure, treatment of the English agentive passive, the passive form context, and the tense and measure of the passive verb in both the 1997-2000 and 2016-2018 translated corpora. The comparable corpora results section presents the 1997-2000 and 2016-2018 original passive structures, the treatment of the Arabic passive, the passive form context, and the tense and measure of the passive verb. The parallel and comparable corpora results section compares the results retrieved from all corpora. Different techniques, such as tables and percentages, are used to make the results easier to read and understand. The comparison includes the translation procedures used by the translators in parallel corpora, the structure of the Arabic passive, treatment of the agentive passive verb, the frequency of the use of the passive verb, the passive form context, and the tense and measure of passive verbs in both the parallel and comparable corpora.

The main significant findings indicate that the English language has affected the Arabic passive form in translated and original texts. There is a slight increase in the agentive passive forms in the 2016-2018 original corpus. This may indicate the English agentive passive influence. However, there was a decrease in the agentive passive forms in the English texts and their Arabic translations. This indicates that the decrease in the English agentive passive has also carried over to translated texts. All scientific texts retrieved from the translations were translated by experienced translators, which could be another reason for the decrease in the translated agentive passives (as mentioned in section 2.3.1.1.2).

There is an increase in the passive forms in the English texts, which was mirrored by the translated texts. This contradicts two studies ([Banks, 2017: 17](#); [Inzunza, 2020: 563](#)) (see section 3.3.1.3.2.) that claim the passive form has been declining. However, this was the opposite in the original corpora, where passive forms have been decreasing. The results show the passive structures occurring in verbal clauses in all translated and original corpora have been on the decline. This indicates a decrease in structures starting with a verb, which the Arabic language favours (see section 2.3.3). They also show a decline in the use of the passive in the ‘imperfect passive’ in all translated and original corpora, which indicates the translated structure influenced the original.

Chapter Five

Conclusion

5.1 Introduction

This corpus-based investigation of the influence of the English language on the use of the passive voice in Arabic scientific texts has revealed that English has left its mark on the translated texts – and this extends to original Arabic texts. The data show that English influenced the Arabic passive structure in translated texts between 1997-2000 and 2016-2018, and original texts in 2016-2018. There was a minor increase in the agentive passive between the 1997–2000 and 2016–2018 original corpora (0.84% to 1.61%, respectively), alongside a decrease in the 1997–2000 and 2016–2018 English and translated texts (9.84% to 1.92%, respectively). This may indicate the English agentive passive influence. There is also a decline in the agentive passive forms in the English texts and their Arabic translations. There is an increase in the passive forms in the English texts, which was mirrored by the translated texts. In addition, the passive forms in the English texts and their Arabic translations have been increasing. This was not the case in the original texts, where the passive form has been declining.

The Introduction to this thesis ([section 1.4](#)) summarised all the chapters of this research; hence, there is no need to repeat that information here. Instead, the conclusions drawn from each corpus are highlighted.

The primary results of the analysis of the 1997–2000 and 2016–2018 parallel corpora are as follows:

- The number of passive forms increased from 0.48% (477.13 per 100,000 words) to 0.60% (579.87 per 100,000 words) between 1997-2000 and 2016-2018 in the English parallel corpora.
- Agentive passive structures in the English scientific articles decreased significantly between 1997-2000 and 2016-2018, from 20.27% (96.71 per 100,000 words) to 10.57% (63.19 per 100,000 words), respectively.
- The number of passive structures increased slightly from 0.23% (226.01 per 100,000 words) to 0.27% (266.43 per 100,000 words) between 1997-2000 and 2016-2018 in the translated parallel corpora.

- Most agentive passives are translated as actives in both the 1997-2000 translated corpus (80%) and the 2016–2018 translated corpus (92.31%).
- There were more English agentive passives translated as agentive passives in Arabic in the 1997–2000 translated texts (9.84%) than in the 2016–2018 translated texts (1.92%).
- More translated passive structures in the 1997-2000 and 2016-2018 translated corpora occurred in verbal clauses than in nominal clauses: 74.47% and 58.33%, respectively.

The primary results of the analysis of the 1997–2000 and 2016–2018 comparable corpora are as follows:

- The number of passive structures decreased from 0.71% (713.17 per 100,000 words) to 0.59% (592.20 per 100,000 words) between 1997-2000 and 2016-2018 in the original corpora.
- There was an increase in use of *kān* followed by its complement in the translated passive structures between the 1997–2000 (6.56%) and 2016–2018 translated corpora (17.31%), compared to the 1997–2000 and 2016–2018 original corpora.
- The number of agentive passives in the original texts increased very slightly over 20 years, from 0.84% to 1.61%.
- Passive structures favoured the perfect passive in both the 1997–2000 and the 2016–2018 translated corpora (57.45% and 58.33%, respectively), whereas they favoured the imperfect passive in both the 1997–2000 and the 2016–2018 original corpora (84.03% and 66.13%).
- The majority of the passive structures in the 1997–2000 and 2016–2018 original corpora favoured a verbal clause over a nominal one, with 68.91% and 60.48%, respectively. However, the use of verbal clauses seemed to be in decline in all the 1997–2000 and 2016–2018 translated and original corpora.

5.2 Answers to research questions

First question:

To determine how English affected the structure of the passive voice in scientific texts translated from English to Arabic, English scientific texts along with their Arabic translations were collected to compare the similarities and differences. Since it is time consuming and beyond the scope of the research to compare all aspects of the texts, the focus is on a number of elements:

1- The translation procedures used by the translators for the passive structure

This shows how likely the translators are to retain the passive form in the translated text and follow the source text style or use other procedures to replace the use of the passive form in the source text. The results revealed that 58.78% of the passive forms in the 1997-2000 translated corpus and 57.72% in the 2016-2018 translated corpus were translated into active forms, which could be interpreted as Arabic not following the English use of the passive in translation. Interestingly, the highest use of the passive form was recorded in the 1997-2000 original corpus, and not in the English texts. (See Table 4.25 for more information.)

2- The Arabic passive structure

Analysing the Arabic passive structure in both the translated and original texts show the extent to which English influenced the passive form. This analysis revealed that verbal clauses occurring in passive structures have decreased between 1997-2000 and 2016-2018 in both translated and original texts, but verbal clauses still exceed nominal clauses in number. Interestingly, the highest number of verbal clauses occurring in passive structures was found in the 1997-2000 translated corpus, i.e. 74.47%. (See Table 4.18 for more information.)

3- The passive form context

This includes three grammatical elements (the use of كان *kān* ‘to be’ and its sisters, the particle قد *qad*, and conjunctions و *wa*, ف *fa*, ثم *tumma*, and أو *aw*) that occur with the passive structure in translated texts. These are compared with the same elements in the original texts. The results revealed that the use of *kān* increased between 1997-2000 and 2016-2018 in the Arabic translated texts but this was not mirrored in the 1997-2000 original texts, and *kān* only occurred once in the 2016-2018 original texts. (See Table 4.16 for more information.) The particle قد *qad* was used extensively in the 1997-2000 and 2016-2018 translated texts, i.e. 21.31% and 23.08%, respectively. However, this use was not mirrored in the 1997-2000 and 2016-2018 original texts, where the proportions were 2.52% and 3.23%, respectively. (See Table 4.26 for more information.) The conjunctions reveal different results. Both the 1997-2000 translated and original texts make greater use of conjunctions (62.30% and 58.82%, respectively). This use decreased in the 2016-2018 translated and original corpora to 36.54% and 33.87%, respectively. The results could suggest the influence of translated texts. (See tables 4.27 and 4.28 for more information.)

4- The tense and measure of the passive verb

The analysis shows that Arabic favoured the imperfect passive in both the 1997–2000 and the 2016–2018 original texts, whereas the 1997-2000 and 2016-2018 translated texts favoured the perfect passive. The results show a decrease in the imperfect passive between the 1997-2000 and 2016-2018 in original texts from 84.03% to 66.13%, respectively, which could suggest the influence of translated texts. (See Table 4.29 and Table 4.30 for more information.)

Second question:

To determine how English translation encouraged the employment of English passive voice structures in original Arabic scientific texts, the treatment of the English agentive passive in translated texts is analysed and compared with the original texts. The results show the use of the agentive passive went from 9.84% in the 1997-2000 translated texts to 1.92% in the 2016-2018 translated texts. It occurred once (5.99 per 100,000 words) in the 1997-2000 original texts and twice (9.55 per 100,000 words) in the 2016-2018 original texts, which does not suggest a significant influence. (See table 4.21, 4.22 and 4.23 for more information.)

5.3 Contribution to knowledge, limitations and future research

The parallel and comparable corpora with annotated dataset of active and passive form categories and contexts are intended to be made open access to other researchers.

With respect to the current research, it is emphasised that the results refer only to the texts that were sampled; analyses of other texts could produce different results. Hence, it is not possible to draw general conclusions. The question of whether the results could be generalised to other text genres requires further investigation.

The study's findings are expected to contribute primarily to the literature on the role of translation in language change in general and the effect English translation has on the passive structure in the Arabic language in particular. This thesis provides a resource for educators, researchers and other individuals interested in this field, and its findings can be compared with those of similar studies conducted in this area. The present study could also be duplicated and used to investigate other languages as well. This would present an interesting avenue for further research.

There are many other areas yet to be explored. Although it is generally agreed that the passive voice is not used as prolifically in fiction as it is in scientific writing, observations of the

treatment of the passive in fiction are highly rewarding because there is no universal style of fiction writing and it can thus be supposed that there are differences in the use of the passive voice between individual works. Because passive voice is used less often in fiction, it may be more likely to be translated into a passive than an active structure, unlike in scientific texts, where it is used abundantly and is arguably less likely to be translated into the passive structure. This was not the focus of the current study, but it could be very important for future research.

The passive could also be investigated in other fields, such as different scientific disciplines – physics, chemistry, and biology in the natural sciences, as well as anthropology, sociology, and linguistics in the social sciences. A comparison of the different fields could yield interesting results. In addition, the compilation of a larger diachronic corpus in the various fields could help to explain the transformation of the passive Arabic form.

Appendices (tables)

Chapter four tables:

Table 1: 1997-2000 original passive structures

Arabic original passive structure	'By-phrase' used in Arabic	Type of verb used	Grammatical analysis of the Arabic passive verb
ويعد الاستفراغ <u>يُوصَف</u> له زمانه مهروسه بقشرها		Passive verb	Imperfect passive - Measure I
<u>ويوصف</u> ثلاث مرات في اليوم		Passive verb	Imperfect passive - Measure I
<u>ويوصف</u> له هنا عصير الليمون مع السكر		Passive verb	Imperfect passive - Measure I
<u>ويطلب</u> من المتعالج أن يتناول هريس الحنطة		Passive verb	Imperfect passive - Measure I
وهنا <u>يُنصح</u> بحث المعدة على الاستفراغ		Passive verb	Imperfect passive - Measure I
على شكل جرعات <u>تؤخذ</u> قبل الطعام		Passive verb	Imperfect passive - Measure I
<u>تؤخذ</u> حصة من الكمون المغلي		Passive verb	Imperfect passive - Measure I
ثم تطحنان جيدا حتى يتكون مزيج متجانس <u>يُشرب</u> مع قذح ماء قبل الإفطار على مدى ثلاث أيام متوالية.		Passive verb	Imperfect passive - Measure I
وبعد طحنها <u>يُضاف</u> الى المزيج سكر بلوري ابيض		Passive verb	Imperfect passive - Measure IV
وبعد المزج <u>تُستخدم</u> جرعة واحدة فقط		Passive verb	Imperfect passive - Measure X
<u>ويقال</u> ان هذه الوصفة تساعد على الاستنكار		Passive verb	Imperfect passive - Measure I
كما <u>تُستخدم</u> مطبوخ الحلبة أيضا		Passive verb	Imperfect passive - Measure X
وإذا كان البول مختلطا بقطرات دم <u>يُوصف</u> شراب معمول من ماء ورق القرع		Passive verb	Imperfect passive - Measure I
عندئذ <u>يوصف</u> الغار مع الكندر والسذاب		Passive verb	Imperfect passive - Measure I
<u>تُستخدم</u> لعلاج الربو وصفة تتألف من عرق السوس		Passive verb	Imperfect passive - Measure X
<u>ويُعجن</u> المسحوق المتجانس		Passive verb	Imperfect passive - Measure I
ثم <u>يوصى</u> المريض بالإفطار عليه		Passive verb	Imperfect passive - Measure IV
حيث <u>يُنهى</u> إحدى الرجلين بشكل كامل		Passive verb	Imperfect passive - Measure I
او الجلسة الشهيرة التي <u>تُسمى</u> "التربية"		Passive verb	Imperfect passive - Measure II
فالحديد المتخلف عن حطام الكريات الحمراء القديمة يتم تجميعه وتخزينه في الكبد <u>ليؤخذ</u> منه عند الحاجة		Passive verb	Imperfect passive - Measure I
وحيث أن نقص الحويوية <u>يُعدُّ</u> مظهرا من مظاهر		Passive verb	Imperfect passive - Measure I
كما <u>يعد</u> الصوم علاجا لحالات التهابات المفصالية		Passive verb	Imperfect passive - Measure I
كما أثبتت التجارب إمكانية علاج الوسواس القهري والهوس وبعض أنواع القسام بما <u>يُسمى</u> «العلاج بالجوع		Passive verb	Imperfect passive - Measure II
أظهرت نتائج الدراسات والابحاث التي <u>أجريت</u> مؤخرا		Passive verb	Perfect passive - Measure IV
<u>فتعد</u> مرحلة شديدة النشاط		Passive verb	Imperfect passive - Measure I
<u>ويلاحظ</u> أن النوم المفيد هو الذي يكون		Passive verb	Imperfect passive - Measure III
كما <u>يلاحظ</u> أن الشعور بالنعاس		Passive verb	Imperfect passive - Measure III
<u>ويُعد</u> الضجيج مهما كان نوعه		Passive verb	Imperfect passive - Measure I
التي <u>أجريت</u> على بعض النائمين		Passive verb	Perfect passive - Measure IV

أن النبض يزداد سرعة في كل مرة تضاء فيها الإشارة الخضراء	Passive verb	Imperfect passive - Measure IV
ولذلك فمن أجل الاستغراق في انوم مريح وعميق يستحسن وضع الهاتف	Passive verb	Imperfect passive - Measure X
عُرف بعضها في البداية	Passive verb	Perfect passive - Measure I
وكان السؤال الذي أثير يومها	Passive verb	Perfect passive - Measure IV
للمرة الأولى لم يفتن بالقصر الصغير، ولكن	Passive verb	Imperfect passive - Measure I
كأنها شغلت بنفس واحد	Passive verb	Imperfect passive - Measure I
وتعزى إليها كل الادوار التي اصابته	Passive verb	Imperfect passive - Measure I
فقد قيل حينها إن أولئك الطلاب	Passive verb	Perfect passive - Measure I
وعليه يجب أن تؤخذ نتائجها ببعض الحذر	Passive verb	Imperfect passive - Measure I
كما تحولت إلى مادة تدرس في الجامعات	Passive verb	Imperfect passive - Measure II
أثبتت أنها وجدت لتبقى	Passive verb	Perfect passive - Measure I
فإن بيير أوضح في المقابلة أنه يفضل أن يعرف بلقب "أب ألعاب الفيديو"	Passive verb	Imperfect passive - Measure I
إلا أن الجهاز لم يلق الراج المأمول حيث تأثرت مبيعاته لأنه كان يباع فقط في صالات عرض شركة ماغنافوكس وبالرغم من أن لعبة بينغ بونغ أطلقت بعد أشهر عدة من أوبيس	Passive verb	Perfect passive - Measure IV
وذلك لأنها عُرِضت في قاعات اللعب العامة	Passive verb	Perfect passive - Measure I
الذي عُرف اختصارا باسم "ان-اي-اس"	Passive verb	Perfect passive - Measure I
ويتوقع أن يصل حجم سوق ألعاب الفيديو	Passive verb	Imperfect passive - Measure V
ويتوقع من خلال تطور التكنولوجيا الحديثة أن تختفي	Passive verb	Imperfect passive - Measure V
وهناك الآن جيل جديد من الأجهزة سوف تدخل ألعاب الفيديو الى عصر جديد يمكن أن يطلق عليه عصرها الذهبي	Passive verb	Imperfect passive - Measure IV
فهناك جهاز دريم كاسيت من إنتاج شركة سيفا الذي أطلق في سبتمبر العام الماضي	Passive verb	Perfect passive - Measure IV
ويلاحظ من خلال ذلك أن بعضها مما يمكن له	Passive verb	Imperfect passive - Measure III
وعلى ذلك فإن عناصر البيئة أربعة إذا استثنينا الإنسان الذي من أجله وجدت هذه العناصر والأصول	Passive verb	Perfect passive - Measure I
ويؤخذ من هذا أنه مهما تطاول	Passive verb	Imperfect passive - Measure I
حيث لم يخلقها الله وسائر الكواكب عبثاً مع العلم بأن معالم الصلاح والسداد في السلوك الإنساني في هذه الأرض لم تترك دون بيان أو توضيح	Passive verb	Imperfect passive - Measure I
وقيل المعني: المهمم عمارتها	Passive verb	Perfect passive - Measure I
والتي تُظهر الحرص على بيان كيفية حدوثها	Passive verb	Imperfect passive - Measure IV
تقدر مساحة الغابات في العالم حسب تقديرات منظمة الأغذية والزراعة	Passive verb	Imperfect passive - Measure II
الأنواع هذه محل الابيض الصنوبر يحل ذلك وبعد . سابقا ذكر كما الحياة قصيرة	Passive verb	Perfect passive - Measure I
وهو ما يسمى بالغابة النزوية أو الأوجية	Passive verb	Imperfect passive - Measure II
أو الأعاصير قد تسمح ببدء مرحلة جديدة من التعاقب ويعرف ذلك بالتعاقب التراجمي	Passive verb	Imperfect passive - Measure I
وتعد غابات المحيط الهادي ضمن أهم أنواع الغابات في العالم	Passive verb	Imperfect passive - Measure I
يساعد على نمو الخشب بمعدلات عالية وتعد صناعة منتجات الغابات في منطقة غابات المحيط الهادي من أهم الصناعات	Passive verb	Imperfect passive - Measure I
يعد البلوط أكثرها عدداً وأهمية	Passive verb	Imperfect passive - Measure I
وكذلك المواد الخام لتصنيع المنصات الخشبية التي تستخدم في تداول وتخزين المواد.	Passive verb	Imperfect passive - Measure X

في حين <u>تسمى</u> في أمريكا الشمالية بالغايات الشمالية	Passive verb	Imperfect passive - Measure II
<u>تعد</u> الغابات المخروطية في آسيا وأوروبا الأغنى في عدد الأنواع	Passive verb	Imperfect passive - Measure I
حيث <u>يعد</u> الصنوبر الأستكتندي أهم نوع تجاري في هذا المضمار	Passive verb	Imperfect passive - Measure I
حيث <u>تعد</u> أهم مصادر الخشب الفعلية والمحتملة في العالم	Passive verb	Imperfect passive - Measure I
<u>وتعد</u> الغابات المخروطية الشمالية أكبر مناطق البراري في العالم	Passive verb	Imperfect passive - Measure I
كما <u>يستخدم</u> البلوط في المناطق الريفية.	Passive verb	Imperfect passive - Measure X
<u>وتعد</u> الغابات الإستوائية في فلوريدا ذات قيمة خاصة كنظام بيئي فريد في الولايات المتحدة الأمريكية	Passive verb	Imperfect passive - Measure I
وقد تطور في هذا المناخ العديد من الغابات التي <u>تسمى</u> بالغايات الجافة متساقطة الأوراق	Passive verb	Imperfect passive - Measure II
<u>وتعد</u> غابات هذه المنطقة ذات أهمية تجارية كبرى	Passive verb	Imperfect passive - Measure I
<u>وتعد</u> هذه الأنواع ذات قيمة اقتصادية عالية جداً في إنتاج الخشب	Passive verb	Imperfect passive - Measure I
<u>تعد</u> غابات المانجروف أي الشورى أهم هذه الأنواع	Passive verb	Imperfect passive - Measure I
<u>وتعد</u> غابات المانجروف مصدراً لأخشاب الوقود	Passive verb	Imperfect passive - Measure I
تشمل هذه الغابات أجزاء من جنوبي إفريقيا وأمريكا الجنوبية ونيوزيلندا لم <u>تزرع</u> بالغايات من قبل	Passive verb	Imperfect passive - Measure I
<u>ويعد</u> العرعر أهم الأنواع التي تضمها غابات المملكة	Passive verb	Imperfect passive - Measure I
وأمطار متوسطة إلى قليلة تظهر عادة في الشتاء وهذا هو ما <u>يعرف</u> بمناخ البحر الأبيض المتوسط	Passive verb	Imperfect passive - Measure I
الأنواع الشجرية في إنتاج الوقود وخاصة البلوط الذي <u>يعد</u> المادة الخام الرئيسة لمنتجات الفحم المحلية	Passive verb	Imperfect passive - Measure I
<u>وتعد</u> كثير من أنواع الأشجار في هذه الغابات ذات أهمية من الناحية الغذائية كالزيتون	Passive verb	Imperfect passive - Measure I
<u>ويعد</u> البلوط الفلبيني أساس صناعة الفلين الكبرى خاصة في البرتغال وغربي البحر الأبيض المتوسط	Passive verb	Imperfect passive - Measure I
كما <u>تستخرج</u> من الصنوبر الأسود الصمغ والفار والترينبات	Passive verb	Imperfect passive - Measure X
عالية تروحية قيمة ذات المتوسط البحر غابات <u>وتعد</u> .	Passive verb	Imperfect passive - Measure I
<u>يعد</u> التنوع الغزير في كل أشكال الحياة أهم الصفات المميزة للغابات الإستوائية	Passive verb	Imperfect passive - Measure I
لذلك <u>تعد</u> هذه الغابات أكثر الإنظمة البيئية على وجه الأرض - تثبيثاً للكربون على هيئة كتلة حيوية	Passive verb	Imperfect passive - Measure I
إلا أنه حتى الآن لم <u>تستغل</u> هذه الإنتاجية	Passive verb	Imperfect passive - Measure X
حيث لم <u>تطبق</u> عليها عمليات التنمية والتقنيات الصناعية المختلفة	Passive verb	Imperfect passive - Measure II
<u>تعد</u> عمليات تثبيث الكتبان الرملية من أهم الممارسات المستخدمة لمكافحة التصحر في هذا القرن	Passive verb	Imperfect passive - Measure I
أن عوامل التعرية تقوم بتدمير العوائق الميكانيكية أو الأغطية المستحلبة كيميائياً التي <u>وضعت</u> لتثبيت سطوح الكتبان الرملية	Passive verb	Perfect passive - Measure I
تقوم الأشجار بأنواعها وأصنافها بدور رائد في وقف زحف الصحراء. خاصة إذا <u>استخدمت</u> كمصدات رياح حول المزارع	Passive verb	Perfect passive - Measure X

كما أشار نفس التقرير إلى أن بعض التقنيات الزراعية الحديثة تؤدي إلى تصحر تلك المناطق الهامشية إذا لم يؤخذ في الحسبان البعد البيئي للحماية	Passive verb	Imperfect passive - Measure I
إذا كان للغابات دورها الهام في صيانة التنوع الإحيائي في كافة مناطق العالم فإن هذا الدور يعد رئيسياً في المناطق شبه الجافة والغابات الجافة في المنطقة الاستوائية من العالم	Passive verb	Imperfect passive - Measure I
ويعد إزالة وقطع الغابات والرعي الجائر من أهم مسببات التصحر بالمنطقة شبه الجافة	Passive verb	Imperfect passive - Measure I
تلعب غابات السفوح الجبلية دوراً هاماً في مكافحة التصحر وصيانة الموارد المائية للمواقع التي تعد هشة بيئياً	Passive verb	Imperfect passive - Measure I
وتعد صيانة الغابات وغطائها النباتي وتنميتها تشجيراً ورعاية أحد أهم أهداف برامج إدارة أماكن تجمعات المياه	Passive verb	Imperfect passive - Measure I
ويعد هذا النوع من التباين الأكثر استعمالاً في تطوير برامج تربية وتحسين الأشجار	Passive verb	Imperfect passive - Measure I
والتي تعد أصغر وحدة يمكن استعمالها في برنامج التربية	Passive verb	Imperfect passive - Measure I
وقد أوضحت الدراسات التي أجريت في هذا المجال بأن اختيار المصدر الصحيح للنبور الجيدة يمثل أكبر طفرة ممكنة في تحسين إنتاجية الأشجار	Passive verb	Perfect passive - Measure IV
ويعد الاختيار الصحيح للسلاسل المناسبة أكبر خطوة يمكن تحقيقها في برنامج التحسين	Passive verb	Imperfect passive - Measure I
ويعد التحسين الوراثي مجالاً جديداً نسبياً على الغابات	Passive verb	Imperfect passive - Measure I
يعد علم الوراثة أساس تربية النباتات	Passive verb	Imperfect passive - Measure I
ومن المعلوم أن صفات الفرد لا تُورث كما هي	Passive verb	Imperfect passive - Measure II
وإنما الذي يُورث العوامل الوراثية أو المورثات (المحمولة على الكروموسومات)	Passive verb	Imperfect passive - Measure II
فقبل اكتشاف البترول وغيره من ثروات باطن الأرض كانت المملكة تعتمد على الموارد الطبيعية المتجددة فأبيدت الأشجار لإفساح المجال للمحاصيل الغذائية والمراعي	Passive verb	Perfect passive - Measure IV
والتي تعد ثروة طبيعية نادرة تنمو في المياه المالحة	Passive verb	Imperfect passive - Measure I
كما أنها تعد بيئة مناسبة لنمو الكثير من الحيوانات البحرية	Passive verb	Imperfect passive - Measure I
كما تستخدم أخشابها في الكثير من الصناعات الخشبية	Passive verb	Imperfect passive - Measure X
للحيوانات كعلف الطرية وأغصانها أوراقها وتستخدم .	Passive verb	Imperfect passive - Measure X
إلا أن الغابات الطبيعية بالمنطقة الجنوبية الغربية من المملكة تعد الثروة الشجرية التي تستحق الرعاية والتنمية نظراً لكثافة الأشجار	Passive verb	Imperfect passive - Measure I
وتوفير بيئة مناسبة للعديد من النباتات الطبية والعطرية والتي تستغل في الطب الشعبي	Passive verb	Imperfect passive - Measure X
وفي دراسة دعمت من قبل مدينة الملك عبدالعزيز للعلوم والتقنية وجد أنه من الممكن استغلال مساحة تقدر بخوالي 1/1 ألف هكتان من تلك الغابات بصورة اقتصادية	من قبل Passive verb	Perfect passive - Measure I
وجد أنه من الممكن استغلال مساحة تقدر بخوالي 1/1 ألف هكتان من تلك الغابات بصورة اقتصادية	Passive verb	Imperfect passive - Measure II
الأول قد وصلت إلى مرحلة النضج. أو فوق النضج حيث لوحظ أن بعضها بدأ يدخل الرعي في المناطق التالية:	Passive verb	Perfect passive - Measure III

ويزرع فيها حوالي طن من بذور المراعي		Passive verb	Imperfect passive - Measure I
وتقدر مساحة المشروع بـ 8 كيلومتر مربع بطول 17 كيلو وعرض		Passive verb	Imperfect passive - Measure II
وتعد حرائق الغابات مصدر تهديد للموارد الخشبية		Passive verb	Imperfect passive - Measure I
ويمكن أن تستثمر الغابات الطبيعية في جنوب غرب المملكة للاستفادة من فوائدها البيئية والاقتصادية		Passive verb	Imperfect passive - Measure X
لم توضع غابات المملكة في المنطقة الجنوبية تحت أي نظام إداري من النظم المعروفة في إدارة الغابات		Passive verb	Imperfect passive - Measure I
تتم على ضوء خطط تقنية تعد لهذا الغرض		Passive verb	Imperfect passive - Measure I

Table 2: 1997-2000 translated passive structures

English source text	'By-phras e' used in English	Arabic target text	'By - phrase' used in Arabic	Type of verb used to translate the English passive verb (Active - Passive form)	Specific procedure used	Grammatical analysis of the Arabic passive verb
Nor do they know why this magnetism is concentrated into so-called sunspots, dark islands on the sun's surface that are as large as the earth and thousands of times more magnetic.		كذلك فإنهم لا يعرفون سبب تركيز هذه المغنطيسية فيما يسمى بالبقع الشمسية sunspots، وهي جزر مظلمة تقع على سطح الشمس حجم كل منها يقارب حجم كرتنا الأرضية، ونشاطها المغنطيسي يفوق الألف المرات نشاط الحقل المغنطيسي للأرض.		Translating the passive form into an active form	Verbal noun 'تركز'	Noun phrase with a verbal noun. 'why this magnetism is concentrated' is translated as a noun phrase تركيز سبب
The spacecraft reached its permanent strategic position—which is called the inner Lagrangian point and is about 1 percent of the way to the sun—on February 14, 1996.		وفي 1996/2/14 بلغت هذه السفينة الفضائية موقعها الاستراتيجي الدائم - الذي يسمى نقطة لاگرانج الداخلية		Translating the passive form into a passive form	Passive verb	Measure II - Imperfect passive
There SOHO is balanced between the pull of the earth's gravity and the sun's gravity and so orbits the sun together with the earth.		وفي هذا الموقع تكون سو هو متوازنة بين جذب ثقالة الأرض وثقالة الشمس،		Translating the passive form into an active form	Active participle with active meaning 'متوازنة'	Measure VI - active participle
To understand the sun's cycles, we must look deep inside the star, to where its magnetism is generated .		إذا ما أردنا فهم الدورات الشمسية، علينا انعام النظر في أغوار هذا النجم حيث تنشأ مغنطيسيته		Translating the passive form into an active form	Active verb with active meaning	
The sounds are trapped inside the sun; they cannot propagate through the near vacuum of space.		وهذه الأصوات تُحتجز داخل الشمس، ومن ثم لا يمكنها الانتشار في الفضاء القريب من الشمس.		Translating the passive form into a passive form	Passive verb	Measure VIII - Imperfect passive
Because its lenses are positioned well above the earth's obscuring atmosphere, it can continuously resolve fine detail that cannot always be seen from the ground.		وبسبب كون عدسات هذا المقراب موجودة خارج جو الأرض الحاجب للرؤية		Translating the passive form into a passive form	Passive participle 'موجودة'	Measure I - passive participle
These lines appear when the sun's radiation intensity is displayed as a function of wavelength..		وتُظهر هذه الخطوط حين تُعرض كثافة الإشعاع الشمسي كدالة للطول الموجي		Translating the passive form into a passive form	Passive verb	Measure I - Imperfect passive
According to SOHO measurements, these ubiquitous hot spots are formed at a temperature of a million kelvins,		واستنادا إلى القياسات التي نَقَّذتها سو هو، فإن هذه البقع الحارة تتكون في درجات حرارة قريبة من مليون درجة كلفن،		Translating the passive form into an active form	Active verb with active meaning	Measure V - this often has a medio-passive sense in Arabic
The entire process is most likely related to a large- scale global reorganization of the sun's magnetic field.		ومن المحتمل جدا أن تكون العملية بكاملها مرتبطة بإعادة تنظيم شامل على نطاق واسع لحقل الشمس المغنطيسي.		Translating the passive form into an active form	Active participle with active meaning 'مرتبطة'	Measure VIII - active participle
The slow component is associated with equatorial regions of the sun,		إن المركبة البطيئة مرتبطة بالمناطق الاستوائية من الشمس		Translating the passive form into an active form	Active participle with active meaning 'مرتبطة'	Measure VIII - active participle
now being scrutinized by LAS- CO and UVCS.	by LAS - CO and	التي يجري تفحصها بوساطة الألتين LASCO و UVCS. وتوحي هاتان الألتان	بوساطة	Translating the passive form into an active form	Compound structure - a verb	

	UVCS				'يجري' followed by a verbal noun 'تخصصها'	
SOHO's UVCS has examined the spectral emission of hydrogen and heavily charged oxygen ions in the regions where the corona <u>is heated</u> and the solar wind accelerates.		وقد قام الجهاز UVCS الموجود على متن سوهو بفحص الإصدار الطيفي للهيدروجين ولأيونات الأكسجين المشحونة بقوة في المناطق التي <u>يجري فيها تسخين</u> الإكليل وتتسارع فيها الرياح		Translating the passive form into an active form	Compound structure - a verb 'يجري' followed by a verbal noun 'تسخين'	
Information about the heating and acceleration processes <u>is</u> probably <u>retained</u> within the low-density coronal holes,		وربما <u>بقيت</u> المعلومات حول سيرورتي التسخين والتسريع <u>محتجزة</u> داخل الثقوب الإكليلية المنخفضة الكثافة،		Translating the passive form into an active form	Active participle with active meaning 'محتجزة'	
Some of its instruments <u>are</u> now <u>poised</u> to resolve several other mysteries.		وقد <u>أنيط</u> ببعض الأجهزة على متن سوهو مهمة كشف أسرار أخرى،		Translating the passive form into a passive form	Passive verb	Measure IV - Perfect passive
Although this 19th-century astronomer <u>is not</u> well <u>known</u> today		فمع أن هذا الفلكي الذي عاش في القرن التاسع عشر <u>غير معروف</u> جيداً الآن،		Translating the passive form into a passive form	Passive participle 'معرفة'	Measure I - passive participle
Newcomb <u>was born</u> in 1835 in Wallace, Nova Scotia, the oldest of seven siblings.		<u>ولد</u> نيوكومب عام 1835 في والاس بولاية نوفا سكوشيا، وكان أكبر إخوته السبعة		Translating the passive form into a passive form	Passive verb	Measure I - Perfect passive
Three years later he became a naturalized U.S. citizen. Although he had been <u>hired</u> at the Naval Observatory as an observational astronomer,		وبعد ثلاثة أعوام، حصل نيوكومب على الجنسية الأمريكية. ومع أن نيوكومب <u>وظف</u> في المرصد المذكور راصداً فلكياً،		Translating the passive form into a passive form	Passive verb	Measure II - Perfect passive
He implied that his arguments favoring these positions were credible because he had framed them using the proper method. These contentions, of course, <u>were not</u> universally <u>accepted</u> .		وكان يلمح إلى أن حججه في الانحياز إلى هذه المواقف كانت معقولة لأنه صاغها مستخدماً الطريقة المناسبة. وبالطبع <u>لم تلق</u> هذه الآراء التي دافع نيوكومب عنها <u>قبولاً</u> عاماً		Translating the passive form into an active form	Active verb with active meaning	The English passive 'were not ... Accepted' is translated as 'لم تقبل ... تلق' which is an active verb plus an object
The speech <u>was reprinted</u> in several magazines and <u>distributed</u> widely, resulting in a nationwide discussion on the topic.		وقد <u>أعيد</u> طبع الخطاب في عدة مجلاتي		1st: Translating the passive form into a passive form	Passive verb	Measure IV - Perfect passive - the passive verb أعيد is followed by a verbal noun (its subject) طبع الخطاب
<u>and distributed</u> widely, resulting in a nationwide discussion on the topic.		<u>ووزع</u> على نطاق واسع، مما أدى إلى مناقشة الموضوع ف		2nd: Translating the passive form into a passive form	Passive verb	Measure II - Perfect passive
Christians who still endorsed the central claims of "natural theology" <u>were particularly upset</u> . » They believed that science augmented religion and that the study of		وعلى الخصوص، <u>غضب</u> المسيحيون الذين كانوا مابزلون بيزيدون الادعاءات المركزية «بلاهوت الطبيعي		Translating the passive form into an active form	Active verb with active meaning	Measure I
insisting that true science restricts itself to terms that "have exact literal meanings, and refer only to things which admit of <u>being perceived by the senses</u> , or, at least, of <u>being conceived</u> as thus perceptible."	by the senses	إذ كان يصر على أن العلم الصحيح يقتصر على استخدام مصطلحات «لها معان لغوية دقيقة، ويشير فقط إلى الأشياء التي <u>يمكن إدراكها بالحواس</u> ، أو على الأقل، التي <u>يمكن فهمها</u> على أساس أنها تدرك حسياً.»	بالحواس	1st: Translating the passive form into an active form	Compound structure - Modal structure that consists of يمكن	(modal) verb + verbal noun subject

					plus another element: a verbal noun 'إدراكها'	
or, at least, of <u>being conceived</u> as thus perceptible.”		، أو على الأقل، التي يمكن فهمها على أساس أنها تدرك حسياً		2nd: Translating the passive form into a passive form	Passive verb	Measure IV - imperfect passive
Certainly, the enthusiasm of the British visitors, the flattery of <u>being asked</u> and the challenge of the research problem all swayed him..		من المؤكد أن حماس الزوار البريطانيين، والإطراء الناتج من دعوته لشغل المنصب، والتحدي الخاص بمشكلة البحث، كانت جميعاً وراء هذا القول		Translating the passive form into an active form	Verbal noun 'دعوته'	Measure I
Through these final years, he remained a dissenter. He was <u>convinced</u> and hoped to convince others that,		وخلال هذه السنوات الأخيرة، ظل نيوكومب منشقاً. فقد كان مقتنعاً - كما كان يأمل في		Translating the passive form into an active form	Compound structure - Verbal phrase consisting of كان followed by its complement an active participle 'مقتنعاً'	Measure VIII - active participle
“But if I <u>am asked</u> whether I regard this cause as an intelligent one		«ولكن إذا سئل إن كنت أعتقد بأن هذا السبب هو سبب		Translating the passive form into a passive form	Passive verb	Measure I - Perfect passive
I am unable to answer until the word 'intelligent' <u>is defined</u> .		ولكن إذا سئل إن كنت أعتقد بأن هذا السبب هو سبب ذكي، فسوف أعجز عن الإجابة إلى أن يتم تعريف كلمة «ذكي		Translating the passive form into an active form	'Be accomplished' verb 'تم' followed by a verbal noun 'تعريف'	
Holding the relative rank of rear admiral in the navy, Newcomb <u>was buried</u> with full military honors in Arlington National Cemetery..		ولما كان نيوكومب يحمل رتبة تعادل رتبة عميد في بحرية الولايات المتحدة، فقد نُقِن في مقبرة أرلنغتون الوطنية وفق كامل مراسم الشرف العسكرية		Translating the passive form into a passive form	Passive verb	Measure I - Perfect passive
Little <u>is known</u> about Nefertari, favorite wife of Ramses II,		لا يُعرف الكثير عن نفرتاري، الزوجة المفضلة لرمسيس الثاني،		Translating the passive form into a passive form	Passive verb	Measure I - imperfect passive
But it is clear she was <u>beloved by</u> her husband.	by her husband and	ولكن من الواضح أنه كان يشقها	'by-phrase' does not have an equivalent	Translating the passive form into an active form	Compound structure - Verbal phrase consisting of كان followed by its complement	
When Italian archaeologist Ernesto Schiaparelli discovered the tomb in 1904, <u>it had already been broken into</u> and looted.		فعندما اكتشف عالم الآثار سكيابارييلي المقبرة عام 1904، كانت قد كُسرت وسُلِب ما فيها		1st: Translating the passive form into a passive form	Passive verb	Measure I - Perfect passive
<u>and looted</u> .		وسُلِب ما فيها		2nd: Translating the passive form	Passive verb	Measure I - Perfect passive

				into a passive form		
The treasures that were to accompany Nefertari in her death were gone, her sarcophagus <u>mashed</u> and her mummy <u>spirited away</u> , and her mummy <u>spirited away</u> .		واختفت الكنوز التي كانت مصاحبة لنفرتاري في قبرها و <u>حُطمت</u> تابوتها		1st: Translating the passive form into a passive form	Passive verb	Measure II - Perfect passive
		وسرقت موميائها		2nd: Translating the passive form into a passive form	Passive verb	Measure I - Perfect passive
The tomb's wall paintings <u>were</u> severely <u>disturbed</u> as well, but this was the result of natural processes, not of grave robbers.		كذلك <u>فسدت</u> الرسوم الجدارية المقبرة بشدة، ولكن هذا كان بسبب العوامل الطبيعية وليس بفعل لصوص المقابر.		Translating the passive form into an active form	Active verb with active meaning	
Salt had leached from the limestone bedrock into which the tomb <u>was carved</u> and <u>had crystallized</u> below the painted plaster, destroying a large proportion of the paintings.		فقد رشح الملح من الحجر الجيري للصخرة الأم التي <u>نحتت</u> فيها المقبرة،		1st: Translating the passive form into a passive form	Passive verb	Measure I - Perfect passive
<u>had crystallized</u> below the painted plaster, destroying a large proportion of the paintings.		وتبلور تحت الملاط plaster متلفا نسبة كبيرة من الرسوم.		2nd: Translating the passive form into an active form	Active verb with active meaning	
(This record supplemented 132 glass plate negatives that Schiaparelli's photographer had assiduously made in 1904 and 1905, as well as other photographic records that <u>had</u> been <u>made</u> in the intervening years.) But the paintings remained in danger;		وشمل هذا التسجيل 132 لوحة زجاجية سالبة glass plate negatives مصور سكياباريلي بين عامي 1904 و 1905، إضافة إلى سجلات مصورة أخرى <u>كانت</u> قد <u>أنجزت</u> في أعوام تالية، ولكن الرسوم بقيت في خطر.		Translating the passive form into a passive form	Verbal phrase consisting of كان followed by its complement a passive verb	Measure IV - Perfect Passive 'ufulil-a
finally, they <u>were</u> so obviously <u>imperilled</u> that the Egyptian government closed the tomb to the public in the late 1930s.		وفي النهاية كان من الديرهي أن تلجأ الحكومة المصرية إلى إغلاق المقبرة أمام الزوار في أواخر الثلاثينات من القرن الماضي.		Translating the passive form into an active form	Nominal clause	
Nefertari's lovely legacy then sat in dusty silence, <u>visited</u> only <u>by</u> a few scholars.	by a few scholars	لقد قبع إرث نفرتاري الجميل في جو هادئ ومغبر، لا يزوره إلا بعض النارسين	'by-phrase' does not have an equivalent	Translating the passive form into an active form	Active verb with active meaning	
a challenging enough task—but the microclimate and hydrological conditions of the entire tomb had to <u>be understood</u> and <u>addressed</u> so that the destruction would not start anew once the work <u>was finished</u> .		فلم يكن الأمر يتعلق فقط بمسألة حماية النقوش الجدارية، وهي بحد ذاتها مهمة شاقة، وإنما كان <u>ينبغي</u> فهم <u>دراسة</u> المناخ الدقيق والظروف الهيدرولوجية، وكيفية التعامل معها، بحيث لا يبدأ التدهور مرة أخرى <u>بمجرد</u> <u>الانتهاء</u> من العمل		1st: Translating the passive form into an active form	Compound structure - a verb 'ينبغي' followed by verbal nouns 'فهم' and 'دراسة'	Form VIII
and <u>addressed</u>		<u>ودراسة</u> المناخ الدقيق والظروف الهيدرولوجية		2nd: Translating the passive form into an active form	Compound structure - a verb 'ينبغي' followed by	verbal noun subject + genitive

				verbal nouns 'فهم' and 'دراسة'	
the work <u>was finished</u> .	بحيث لا يبدأ التدهور مرة أخرى <u>بمجرد</u> الانتهاء من العمل		3rd: Translating the passive form into an active form	Compound structure - adverbial phrase + verbal noun 'الانتهاء'	بمجرد is an adverb
The restoration of works of art <u>is</u> sometimes <u>done</u> , even if reluctantly, to re-create the original visual harmony and consistency of a piece.	بعض الأحيان يتم ترميم الأعمال الفنية (حتى وإن كان على كره منا)، لإعادة التناغم والاتساق البصري الأصلي		Translating the passive form into an active form	'Be accomplished' verb 'تم' followed by a verbal noun 'ترميم'	
they also looked for places where rock fragments were jutting through the plaster. They examined the paint to see whether it was flaking, <u>being abraded</u> , or losing its cohesiveness ‘	كما قام أعضاء الفريق بفحص أمكنة تتأ فيها كسر الصخور من خلال الملاط، وفحصوا الطلاء ليرى إن كان قد تعرض للتقشر أو السحج أو لفقدان تماسكه		Translating the passive form into an active form	Compound structure - a verb 'تعرض' followed by a verbal noun	This seems to be a relatively common way of translating the English passive in the corpus
and whether <u>it</u> was <u>covered</u> with dirt, dust or insect nests.	وما إذا كان مغطى بالأوساخ أو الأتربة أو أعشاش الحشرات		Translating the passive form into a passive form	Verbal phrase consisting of كان followed by its complement a passive participle 'مغطى'	Measure II
Finally, they located the earlier interventions: the places where paintings <u>had been retouched</u> , holes patched, and facing— such as gauze or adhesive tape— <u>applied</u> .	وأخيرا حددوا الأمكنة التي تعرضت لترميمات سابقة، وهي التي جرى فيها تنقيح retouching الرسوم وسد الثقوب وترميم الظهارة باستخدام الشاش والشريط اللاصق.		1st: Translating the passive form into an active form	Compound structure - a verb 'تعرضت' followed by a verbal noun	
such as gauze or adhesive tape— <u>applied</u> .	وترميم الظهارة باستخدام الشاش والشريط اللاصق.		2nd: Translating the passive form into an active form	Verbal noun 'باستعمال'	
Once the condition survey <u>was finished</u> , Paolo Mora, former chief conservator of the Central Institute of Restoration in Rome, and his wife, Laura Mora, began the laborious work of conserving the paintings.	وبمجرد الانتهاء من إجراء مسح للحالة العامة شرع		Translating the passive form into an active form	Compound structure - adverbial phrase + verbal noun 'الانتهاء'	بمجرد is an adverb
Once the ingredients <u>were known</u> , the researchers could figure out how best to save or stabilize the ancient paintings.	وبمجرد معرفة المكونات، استطاع الباحثون تحديد أفضل الطرق لإتقاذ الرسوم القديمة وتثبيتها		Translating the passive form into an active form	Compound structure - adverbial phrase + verbal	بمجرد is an adverb

				noun 'معرفة'	
The workers also found that some of the paintings <u>had</u> been <u>varnished</u> with tree resin and egg white— although two modern synthetic resins showed up as well in lab analyses, suggesting that there had been some earlier, undocumented restoration effort.		ولقد وجد العمال أيضا أن بعض الرسوم قد دهنت براتنج الأشجار مع بياض البيض، إضافة إلى أن نوعين من الراتنج الصناعي الحديث قد ظهرا في التحليلات المختبرية، مما يشير إلى أن بعض الترميمات غير الموثقة قد أجريت سابقا.	Translating the passive form into a passive form	Passive verb	Measure I - Perfect passive
The plaster <u>was composed</u> of gypsum, anhydrite and Nile silt, with some crushed limestone mixed in; wheat straw had been used to reinforce it and to prevent it from cracking as it dried.		وكانت طبقة الملاط تتكون من الجبس والأنهيدرايت وطمي النيل المخلوط فيه بعض الحجر الجيري المجروش. وقد استخدم قش الحنطة في تقويتها وربطها، إضافة إلى حمايتها من التشقق عند الجفاف	Translating the passive form into an active form	Medio-Passive verb	is a 'تكون' active in form but is semantically medio-passive
wheat straw <u>had</u> been <u>used</u> to reinforce it and to prevent it from cracking as it dried.		الحنطة قش استخدم وقد .	Translating the passive form into a passive form	Passive verb	Measure X - Perfect passive
concern about the future of these paintings centers on the most obvious threat: salt. When work began on the tomb, thick, 15-millimeter (0.6-inch) layers of salt <u>were discovered</u> under the plaster, forcing it from the wall.		أما بخصوص مستقبل هذه الرسوم فإن الاهتمام يتركز على أكثر التهديدات وضوحا، وهو الملح. فعندما بدأ العمل بالمقبرة، اكتشفت طبقات ملحية سمكها 15 مليليمترا (0.6 إنش) تحت سطح الملاط،	Translating the passive form into a passive form	Passive verb	Measure VIII - Perfect passive
The salt came from Theban limestone, the marine sediment into which the tomb <u>was cut</u> .		ومصدر الملح هو الحجر الجيري الطبيعي Theban الذي يمثل الرسوبيات البحرية التي نحتت فيها المقبرة	Translating the passive form into a passive form	Passive verb	Measure I - Perfect passive
Some was clearly <u>introduced</u> in the wet plaster applied by Ramses's wall painters themselves.		فمن الواضح أن جزءا من الماء مصدره طبقة الملاط المبللة التي استعملها رسامو الملك رمسيس أنفسهم	Translating the passive form into an active form	Nominal clause	'Was clearly introduced' is translated as a phrase involving the noun masdar
Some was clearly introduced in the wet plaster <u>applied by</u> Ramses's wall painters themselves.	by Ramses's wall painters	فمن الواضح أن جزءا من الماء مصدره طبقة الملاط المبللة التي استعملها رسامو الملك رمسيس أنفسهم	'by-phrase' does not have an equivalent	Translating the passive form into an active form	Active verb with active meaning
Since late 1995 a maximum of 150 people a day, in groups of 10 to 15, <u>have been allowed</u> in for no more than 15 minutes.		ومنذ أواخر سنة 1995، سمح بالزيارة لنحو 150 شخصا بحد أقصى في اليوم الواحد، في مجموعات من 10 أو 15 فردا ولمدة لا تزيد	Translating the passive form into a passive form	Passive verb	Measure I - Perfect passive
In this scenario, the stage for life <u>was set</u> more than four billion years ago when a cold,		ووفق هذا السياق، فإن مرحلة بدء الحياة تعود إلى أكثر من أربعة بلايين سنة، عندما انهارت غيمة بين النجوم مظلمة وباردة	Translating the passive form into an active form	Active verb with active meaning	Measure I
Earth coalesced not long after the sun, about 4.5 billion years ago, and <u>was</u> long <u>thought</u> to have retained water and the ingredients for life since then.		وتكونت الأرض بعد زمن ليس بطويل من تكون الشمس، وذلك قبل نحو 4.5 بليون سنة. وقد ساد الاعتقاد مدة طويلة أن الأرض احتوت على الماء ومكونات الحياة الأخرى منذ ذلك الوقت	Translating the passive form into an active form	Compound structure - a verb 'اساد' followed by a verbal noun 'الاعتقاد'	

In fact, the moon may be a chunk of Earth that <u>was blown off</u> in a collision with an object the size of Mars		وقد لا يكون القمر، في الواقع، سوى قطعة من الأرض انفصلت عنها لدى اصطدامها بجرم فضائي يكافئ في الحجم كوكب المريخ		Translating the passive form into an active form	Active verb with active meaning	Measure VII
In other words, only 100 million years or so after the earliest possible point when Earth could have safely supported life, organisms <u>were</u> already well enough <u>established</u> that evidence of them remains today.		ويتعبير آخر فإن المتعضيات، وبعد نحو 100 مليون سنة من بدء المرحلة المبكرة التي تمكنت الأرض فيها من رعاية حياة آمنة، كانت في حالة كافية من الازدهار مكنتها من ترك آثارها التي بقيت حتى يومنا هذا		Translating the passive form into an active form	Compound structure - Verbal phrase consisting of كان followed by its complement an adverbial complement في 'كافية حالة من الازدهار'	
New evidence has drawn the components of Miller's atmosphere into question, but his primordial soup theory for how life's ingredients <u>were spawned</u> in a warm pond or ocean on the planet's surface still has a strong following.		أدى دليل جديد إلى الشك في مسألة مكونات جو >مليار<، إلا أن نظرية الحساء البدائي primordial soup التي وضعها لتفسير إنتاج مكونات الحياة في بركة أو محيط دافئين على سطح الكوكب لا تزال تحتفظ ببعض الموالين المعتقدين بها.		Translating the passive form into an active form	Compound structure - adverbial phrase + verbal noun 'إنتاج'	
Hundreds of tons of dust alone <u>are estimated</u> to drift down to the planet's surface every day.		يقدر أن مئات الأطنان من الغبار تنجرف كل يوم إلى		Translating the passive form into a passive form	Passive verb	Measure II - Imperfect passive
An ultraviolet lamp bathes the newly formed ice in a potent dose of star-like radiation (2). Infrared light, also <u>emitted by stars</u> , is later <u>projected</u> through the ice to determine what molecules are <u>frozen</u> inside.	by stars,	يقوم مصباح فوق بنفسجي بغمر الجليد الحديث التشكل بجرعة قوية من إشعاع شبيه بالإشعاع النجوم (2). وكذلك يسقط الضوء تحت الأحمر الذي يصدر عن النجوم أيضا	عن النجوم	1st: Translating the passive form into an active form	Active verb with active meaning 'يصدر'	Measure II - active. 'emitted' is a reduced passive in English.
Infrared light, also <u>emitted</u> by stars, is later <u>projected</u> through the ice		وكذلك يسقط الضوء تحت الأحمر الذي يصدر عن النجوم أيضا على الجليد		2nd: Translating the passive form into an active form	Active verb with active meaning	
to determine what molecules are <u>frozen</u> inside.		لمعرفة ماهية الجزيئات المتجمدة في داخله		3rd: Translating the passive form into an active form	Active participle with active meaning 'المتجمدة'	Measure VII - active participle
Most of the carbon is tied up in kerogen, a material composed partly of polycyclic aromatic hydrocarbons, Compounds		، فمعظم الكربون الموجود يكون متحدا على شكل كبروجين kerogen، وهي مادة تتألف جزئياً من هيدروكربونات عطرية متعددة الحلقات،		1st: Translating the passive form into an active form	Active participle with active meaning 'متحدا'	'Composed' is a reduced passive in English
a material composed partly of polycyclic aromatic hydrocarbons, Compounds		وهي مادة تتألف جزئياً من هيدروكربونات عطرية متعددة الحلقات،		2nd: Translating the passive form into an active form	Active verb with active meaning	Measure V
these special hydrocarbons also caused a stir when they <u>were detected</u> in the controversial Martian meteorite ALH 84001,		وقد اثارَت هذه الهيدروكربونات الخاصة ضجة عندما اكتشفت في النيزك المريخي ALH 84001 المشير للجدل		Translating the passive form into a passive form	Passive verb	Measure VIII - Perfect passive
Other scientists still assert an older claim that extraterrestrial organic molecules <u>were born</u> within the nebula.		لا يزال هناك بعض العلماء الذين يدافعون عن الادعاء القديم بأن الجزيئات العضوية غير الأرضية تشكلت ضمن السديم.		Translating the passive form into an active form	Active verb with active meaning	Measure V

According to this theory, ice from the mother cloud boiled off, and molecules broke apart and <u>were rearranged</u> in the violence of planet formation..		وتدعي هذه النظرية أن الجليد الناجم عن الغيمة الأم قد تبخر وأن الجزيئات قد تحطمت وتفككت ومن ثم <u>عيد ترتيبها</u> إبان ثورة تشكل الكواكب		Translating the passive form into a passive form	Passive verb	Measure IV - Perfect passive - though this partly translates the 're' element in 'rearranged'. The Passive verb is followed by a verbal noun 'ترتيبها'.
On the contrary, most comet dust <u>is enriched</u> in rare elements isotopicsignatures.		وعلى عكس ذلك، فإن معظم غبار المذنبات <u>يكون غنيا</u> بالعناصر النادرة		Translating the passive form into an active form	Compound structure - Verbal phrase consisting of كان followed by its complement an adjective 'غنيا'	The use of the verb كان followed by the complement adjective غنيا which is itself followed by its complement beginning with ب. The passive verb is translated into an adjective
This duality is manifest in space dust comprising materials that have <u>been altered by</u> great heat right next to others	by great heat	وتتجلى هذه الازدواجية في الغبار الفضائي الذي يتألف من مواد <u>خضعت للتعديل بفعل</u> حرارة شديدة إلى جانب مواد أخرى لم يلحق بها أي تغيير	<u>بفعل</u> <u>حرارة</u> <u>شديدة</u> <u>بفعل</u>	Translating the passive form into an active form	Compound structure - a verb 'خضعت' followed by a verbal noun 'للتعديل'	
the ice formed at, and <u>was never warmed</u> above, approximately 25 kelvins (-400 degrees Fahrenheit).		تبين أن الجليد تشكل في درجة تقدر بنحو 25 كلفن (-400 درجة فهرنهايتية أو -240 درجة سيليزية) ولم يسخن إلى درجة أعلى منها إطلاقاً.		Translating the passive form into a passive form	Passive verb	Measure II - Imperfect passive
When the remaining radiation reaches detectors on Earth and <u>is spread out</u> into a spectrum, light missing at certain wavelengths corresponds to particular chemical bonds with the capacity to absorb light.		وعندما يصل ما يتبقى من هذا الإشعاع إلى أجهزة الكشف الموجودة على الأرض <u>ترسم</u> طيفه. وهكذا فإن الضوء المفقود عند		Translating the passive form into a passive form	Passive verb	Measure I - imperfect passive
our group at NASA Ames and several other teams around the world determined that the ice grains in the dark clouds <u>are frozen</u> on cores of silicate or carbon.		وجد فريقنا في (ناسا اميس) وفريق أخرى في جميع أنحاء العالم، أن حبات الجليد في الغيوم المظلمة <u>تجمدت</u> حول لبّ core من السيليكات أو 1999-		Translating the passive form into an active form	Active verb with active meaning	Measure V
The ice <u>is composed</u> primarily of water but often contains up to 10 percent simple molecules such as carbon dioxide, carbon monoxide, methane, methanol and ammonia.		الكربون. ويتألف الجليد أساساً من الماء ولكنه غالباً		Translating the passive form into an active form	Active verb with active meaning	Measure V - 'composed' is a reduced passive in English
Emerging together from the pre-solar cauldron, Earth and Venus <u>were endowed</u> with nearly the same size and composition.		الأرض والزهرة كانتا بنفس الحجم والتركيب عندما برزتا إلى الوجود معا من مرآل ما قبل المنظومة الشمسية		Translating the passive form into an active form	Compound structure - Verbal phrase consisting of كان followed by its complement a verbal noun	Effectively the Arabic verb is missed out here.

This depiction of hell <u>has been brought</u> to us <u>by</u> an armada of 22 robotic spacecraft that have photographed, scanned, analyzed and landed on Venus over the past 37 years.	by an armada of 22 robotic spacecraft	هذا الوصف لما يُشبهه الجحيم <u>نقله البنا أسطول مكون من 22 سفينة فضائية إنسانية</u>	'by-phr ase' does not have an equivalent	Translating the passive form into an active form	Active verb with active meaning	Measure I
Earth and Venus, on the other hand, have climates <u>that are driven by the dynamic</u> interplay between geologic and atmospheric processes.	by the dynamic interplay	أبدا. أما الأرض والزهرة فلهما مناخان <u>يحكمهما التفاعل الديناميكي المتبادل بين السيرورات الجيولوجية والجوية</u>	'by-phr ase' does not have an equivalent	Translating the passive form into an active form	Active verb with active meaning	Measure I
How stable is it? Humankind is engaged in a massive, uncontrolled experiment on the terrestrial climate <u>brought on by the growing effluent</u> from a technological society.	by the growing effluent	وكم هو مستقر؟ والجنس البشري متورط الآن في امتحان كبير لمناخ الكرة الأرضية <u>اقتضاه التطور التقني المتنامي للمجتمعات البشرية</u>	'by-phr ase' does not have an equivalent	Translating the passive form into an active form	Active verb with active meaning	Measure VIII - 'bought on' is a reduced passive
It appears that heat <u>was transferred</u> , at least in the relatively recent past, <u>by the eruption</u> of vast plains of basaltic lava and later by the volcanoes that grew on top of them.	by the volcanoes	ويبدو أن الحرارة <u>كانت تنتقل</u> ، في الماضي القريب نسبيا على الأقل، <u>عن طريق انفاعات</u> حمم بزلتية فوق سهول قسيحة جدا،	عن طريقي انفاعات	Translating the passive form into an active form	Compound structure - Verbal phrase consisting of كان followed by its complement a verb 'تنتقل'	Measure VIII - This is interesting because the Arabic has both an active verb and the use of عن تنتقل, which is a typical 'transaltion-influenced' equivalent of agentive 'by', used with passives in English.
Somehow impacts from the first 3.7 billion years of the planet's history have <u>been eradicated</u> .		ويبدو أن الحفر التي أحدثتها الصوادم خلال الـ 3.7 بليون سنة الأولى من تاريخ الكوكب <u>قد محيت بطريقة ما</u>		Translating the passive form into a passive form	Passive verb	Measure I - Perfect passive
A sparsity of craters is also evident on Earth, where old craters <u>are eroded by</u> wind and water.	by wind and water	إن تفرق الحفر هنا وهناك هو أمر واضح على كوكب الأرض أيضا؛ فقد عملت الرياح والمياه على <u>حذفها</u> ، مما أدى إلى تغيير أشكالها بدرجات متفاوتة	'by-phr ase' does not have an equivalent	Translating the passive form into an active form	Compound structure - a verb 'عملت' followed by a verbal noun 'على' حذفها	Measure I
Terrestrial impact sites <u>are found</u> in a wide range of altered states, from the nearly pristine bowl of Meteor Crater in Arizona		إن تفرق الحفر هنا وهناك هو أمر واضح على كوكب الأرض أيضا؛ فقد عملت الرياح والمياه على <u>حذفها</u> ، مما أدى إلى تغيير أشكالها بدرجات متفاوتة. فمنها ما يكاد يحتفظ بشكله الأصلي، مثل الحفرة «السلطانية»، (الصحنية) bowl الشكل المعروفة باسم ميتيور كريتير Meteor Crater في أريزونا، ومنها ما يصعب تمييز حدوده		Translating the passive form into an active form	Nominal clause	هو أمر واضح .nominal clause

only 6 percent of them have lava lapping their rims, and only 12 percent have <u>been disrupted by</u> folding and cracking of the crust.	by folding and cracking of the crust	إذ لا توجد حمم إلا على حواف ما نسبته 6 في المئة منها كما أن 12 في المئة فقط قد <u>تصدعت</u> بفعل <u>انثناء</u> قشرة الأرض وتصدعها.	بفعل انثناء قشرة الأرض وضوت صدعها	Translating the passive form into an active form	Active verb with active meaning	The passive verb has been omitted and replaced by a different verb in the TT.
those that remain are unaltered ? If they have <u>been covered up by</u> lava,	by lava	إذا كان معظم الباقي منها لا يزال على حالته الأصلية؟ فإذا كانت قد <u>غطتها</u> الحمم،	'by-phr ase' does not have an equivalent	Translating the passive form into an active form	Compound structure - Verbal phrase consisting of كان followed by its complement	Measure II
why do we not see more craters that <u>are partially covered</u> ?		فلماذا لا نرى مزيدا من الحفر <u>مغطاة</u> جزئيا بالحمم؟		Translating the passive form into a passive form	Passive participle 'مغطاة'	Measure II - passive participle
And how have <u>they been removed</u> so that their initial random placement <u>has been preserved</u> ?		كيف <u>أزيلت</u> بحيث إن وضعها المبدئي العشوائي <u>ظل محفوظا</u> ؟		1st: Translating the passive form into a passive form	Passive verb	Measure IV - Perfect passive - 'uffiil-a
their initial random placement <u>has been preserved</u> ?		إن وضعها المبدئي العشوائي <u>ظل محفوظا</u> ؟		2nd: Translating the passive form into a passive form	Verbal phrase consisting of ظل followed by its complement a passive participle 'محموظا'	Measure I - here there is an <u>ظل</u> , كان خت followed by passive participle محموظا.
Elements of both models have <u>been incorporated</u> into the prevailing interpretation of the past billion years of Venus's geologic history:		قد <u>أدمجت</u> عناصر من كلا النموذجين في التفسير السائد للتاريخ الجيولوجي لكوكب الزهرة خلال البليون سنة المنصرمة		Translating the passive form into a passive form	Passive verb	Measure IV - Perfect passive
and created the vast volcanic plains 800 million years ago, and it has <u>been followed by</u> a reduced level of continued volcanic activity up to the present.	by a reduced level of continued volcanic activity	وكون السهول البركانية الشاسعة منذ 800 مليون سنة، <u>تبعها</u> بعد ذلك نشاطات بركانية على مستوى أقل استمرت حتى وقتنا الراهن	'by-phr ase' does not have an equivalent	Translating the passive form into an active form	Active verb with active meaning	Measure I
These intensely crinkled landscapes <u>are located</u> on continent like crustal plateaus that rise several kilometers above the low-land lava plains.		وتقع هذه الأراضي الشديدة التعضن فوق نجوم (هضاب) قشرية تشبه القارات، ترتفع عدة كيلومترات فوق سهول اللابة		Translating the passive form into an active form	Active verb with active meaning	Measure I
Analyses by Phillips and by Vicki L. Hansen of Southern Methodist University indicate that the plateaus <u>were formed by</u> extension of the lithosphere (the rigid exoskeleton of the planet,	by extension of the lithosphere	ويشير تحليل أجراه فيليبس و<L.V. هانسن> [من جامعة ثاترن ميثوديست] إلى أن هذه النجوم <u>تشكلت</u> نتيجة تمدد الغلاف الصخري للزهرة	'by-phr ase' does not have an equivalent	Translating the passive form into an active form	Active verb with active meaning	Measure V

That is, the entire lithosphere seems to have been stretched or compressed all at the same time..		ويعني بذلك أنه يبدو أن الغلاف الصخري انضغط كله أو انضغط كله في الوقت نفسه		Translating the passive form into an active form	Active verb with active meaning	Measure VII
But then the clouds were slowly eaten away .		السحب كانت فاعلة في البداية، فبرد سطح الكوكب بنحو 100 درجة سيليزية، إلا أنها تبددت ببطء بعد ذلك		Translating the passive form into an active form	Active verb with active meaning	Measure V
Water diffused higher in the atmosphere, where it was dissociated by solar ultraviolet radiation.	by solar ultraviolet radiation	. فقد انتشر الماء إلى ارتفاعات أعلى في الغلاف الجوي، حيث تكاف بفعل أشعة الشمس فوق البنفسجية.	يفعل أشعة الشم فوق البنفسجية	Translating the passive form into an active form	Active verb with active meaning	Measure V
The hydrogen slowly escaped into space; half of it was lost within 200 million years.		، وتسرب الهيدروجين ببطء إلى الفضاء وفقد جو الكوكب نصفه خلال 200 مليون سنة		Translating the passive form into an active form	Active verb with active meaning	Measure I
sulfur dioxide in Venus's atmosphere is taken up by carbonates much more quickly than water is lost to space.	by carbonates	، بأن الكربونات تتشرب ثنائي أكسيد الكبريت الموجود في غلاف الزهرة الجوي بسرعة أكبر بكثير من السرعة التي يفقد فيها الجو ماء في الفضاء.	'by-phrase' does not have an equivalent	1st: Translating the passive form into an active form	Active verb with active meaning	Measure V
more quickly than water is lost to space.		التي يفقد فيها الجو ماء في الفضاء.		2nd: Translating the passive form into an active form	Relative clause - 'التي' followed by a verb 'يفقد'	Measure I
A positive feedback ensued: the more the clouds eroded, the less sunlight was reflected back into space, the hotter the surface became, the more the clouds were evaporated from below, and so on.		وتبع ذلك تغذية استرجاعية إيجابية، فكلما ازداد تآكل السحب، قل انعكاس ضوء الشمس إلى الفضاء.		Translating the passive form into an active form	Verbal noun 'انعكاس'	قل noun انعكاس. - Measure VII
Because sulfur dioxide and water vapor are continuously lost , clouds require ongoing volcanism for their maintenance.		وبالتالي ازدادت درجة حرارة السطح، وازداد تبخّر السحب من الأسفل، وهكذا دواليك		Translating the passive form into an active form	Active verb with active meaning	Measure V
Because sulfur dioxide and water vapor are continuously lost , clouds require ongoing volcanism for their maintenance.		ونظراً لأن جو الكوكب كان يفقد ثنائي أكسيد الكبريت وبخار الماء باستمرار، فإن وجود السحب كان يتطلب استمراراً في النشاط البركاني لتعويضهما		Translating the passive form into an active form	Compound structure - Verbal phrase consisting of كان followed by its complement a verb 'يفقد'	Measure VIII
Although it is also affected by volcanism, the oxygen-rich atmosphere— provided by biota and plentiful water readily removes sulfur gases.	by volcanism	فعلى الرغم من تأثيره بالنشاطات البركانية فإن جو الأرض الغني بالأكسجين (الذي يزوده كل من النباتات	بالنشاطات البركانية	1st: Translating the passive form into an active form	Compound structure - adverbial phrase	Measure V
The oxygen-rich atmosphere— provided by biota and plentiful water readily removes sulfur gases.	by biota and plentiful water	الذي يزوده كل من النباتات	'by-phrase' does not have an equivalent	2nd: Translating the passive form into an active form	Relative clause - 'الذي' followed by a verb 'يزوده'	Measure VI

The amount of water vapor available to these clouds <u>is determined by</u> the evaporation of the oceans, which in turn depends on surface temperature.	by the evaporation	وكمية بخار الماء المتاحة لتشكيل هذه السحب <u>تحدد</u> عملية التبخر، التي تعتمد بدورها على درجة الحرارة	'by-phrase' does not have an equivalent	Translating the passive form into an active form	Active verb with active meaning	Measure II
Although nearly all researchers agree that global warming is occurring, debate continues on how much of it <u>is caused by</u> the burning of fossil fuels and how much stems from natural variations.	by the burning of fossil	وعلى الرغم من أن جميع الباحثين تقرّبا يوافقون على أن هناك احترازا شاملا للكثرة الأرضية يحدث الآن، فإن النقاش مازال محتدما حول النسبة منه التي <u>يسببها</u> حرق الوقود الأحفوري وتلك التي تحدثها التغيرات الطبيعية	'by-phrase' does not have an equivalent	Translating the passive form into an active form	Relative clause - 'التي' followed by a verb 'يسببها'	Measure II
Whether there is a critical amount of carbon dioxide that overwhelms Earth's climate regulation cycles <u>is not known</u> .		ولكن ليس معروفا حتى الآن ما إذا كانت هناك كمية حرجة من ثنائي أكسيد الكربون في الجو من شأنها أن تُربك دورات تنظيم مناخ الأرض.		Translating the passive form into a passive form	Passive participle	Measure II - passive participle
In the long run, Earth's fate <u>is sealed</u> .		وفي المدى البعيد، فإن مصير الأرض <u>محتوم</u>		Translating the passive form into a passive form	Passive participle	Measure I - this is verbless clause
That perspective <u>has been gained</u> from the growing awareness that by-products from a global technological society have the power to alter the planetary climate		وقد تم <u>اكتساب</u> هذا المنظور من الإدراك المتزايد بأن بإمكان المنتجات الثانوية التي تخلفها الصناعات أن تغير مناخ كوكبنا		Translating the passive form into an active form	'Be accomplished' verb 'تم' followed by a verbal noun 'اكتساب'	
The space shuttle could transfer the crew to the Mars craft once it <u>was completed</u> .		وباستطاعة المكوك الفضائي نقل الملاحين إلى سفينة المريخ بعد <u>الإنهاء</u> من إنجازها		Translating the passive form into an active form	Compound structure - adverbial phrase + verbal noun 'الإنهاء'	Verbal noun. من الانتهاء بعد إنجازها is an adverbial
The Magnum <u>is designed</u> to use the same launchpads and solid-fuel boosters as the space shuttle..		وقد صمّم ماكنوم كي يستعمل نفس منصات الإطلاق والمحركات التي تعمل بالوقود الصلب التي يستعملها المكوك الفضائي		Translating the passive form into a passive form	Passive verb	Measure II - Perfect passive
These engines provide thrust by streaming liquid hydrogen through a solid-core nuclear reactor; the hydrogen <u>is heated</u> to more than 2,500 degrees Celsius and escapes through the rocket nozzle at high speed.		وتؤكد هذه المحركات الدفع بجعل الهيدروجين السائل يتدفق عبر مفاعل نووي ذي قلب صلب. <u>ويسخن</u> الهيدروجين إلى أكثر من 2500 درجة سيلزية		Translating the passive form into a passive form	Passive verb	Measure II - Imperfect passive
The gaseous fuel, such as cesium or xenon, flows into a chamber and <u>is ionized</u> by an electron gun similar to those in television screens and computer monitors.	by an electron gun	وهنا يجري الوقود الغازي، مثل السيزيوم أو الزينون xenon، في حجرة <u>ويؤين</u> بواسطة مدفع إلكتروني شبيه بالمدافع الإلكترونية	بوساطة	Translating the passive form into a passive form	Passive verb	Measure II - Imperfect passive
Because their motion is perpendicular to the magnetic field, they <u>are pushed</u> out into space.		ولما كانت حركة هذه الجسيمات عمودية على الحقل المغناطيسي، فإنها <u>تُدفع</u> خارجا إلى الفضاء.		Translating the passive form into a passive form	Passive verb	Measure I - Imperfect passive
The propellant, generally hydrogen, is <u>first ionized</u> by radio waves and <u>then guided</u> into a central chamber	by radio waves	<u>ويؤين</u> أولا الوقود الداسر - الذي هو هيدروجين عموما - <u>بوساطة</u> موجات راديوية، ثم <u>يوجه</u> إلى	بوساطة موجات	1st: Translating the passive form	Passive verb	Measure II - Imperfect passive

threaded with magnetic fields.				into a passive form		
and then guided into a central chamber threaded with magnetic fields.		ثم يُوجَّه إلى حجرة مركزية تتنازها حقول مغناطيسية		2nd: Translating the passive form into a passive form	Passive verb	Measure II - Imperfect passive
They are pushed along by the gentle pressure of sunlight— feeble but free..	by the gentle pressure of sunlight	تُدفع هذه الأثرعة بالضغط المنخفض لنور الشمس - الضعيف، لكنه طليق	بـ	Translating the passive form into a passive form	Passive verb	Measure I - Imperfect passive
For high-thrust rockets, the most fuel-efficient way to get to Mars is called a Hohmann transfer.		فيما يتعلق بصواريخ الدفع القوي، فإن أفضل طريق يجب سلوكه لتوفير أكبر فعالية ممكنة للوقود يسمى طريق نقل هويمان		Translating the passive form into a passive form	Passive verb	Measure II - Imperfect passive
Such a planetary configuration is known to astronomers as a conjunction. To return, the astronauts wait until Mars is about 75 degrees ahead of Earth		ويسمى الفلكيون هذا الترتيب الكوكبي اقتراناً (4) conjunction. ولعودة رواد الفضاء، فإنهم ينتظرون إلى أن يسبق المريخ الأرضَ بزاوية قدرها نحو 75 درجة		Translating the passive form into an active form	Active verb with active meaning	Measure II
and solar flares, the intense streams of protons that are periodically ejected from the sun.		والسنة الذهب flares الشمسية التي هي دفقات شديدة من البروتونات تتذفها الشمس دورياً		Translating the passive form into an active form	Active verb with active meaning	
Astronauts in low Earth orbit are protected by the planet's magnetic field, which traps and deflects the incoming protons, but travelers en route to the moon and Mars forgo this safety.	by the planet's magnetic field	إن رواد الفضاء في مدار أرضي منخفض محميون بفضل الحقل المغناطيسي الأرضي	بفض ل الحقل المغناطيسي	Translating the passive form into a passive form	Passive participle	Measure I - passive participle. Note also that إن رواد مدار في الفضاء منخفض أرضي بفضل محميين الحقل المغناطيسي الأرضي is a verbless nominal clause
Fortunately, the particles can be easily blocked ..		ولحسن الحظ، فمن الممكن اعتراض سبيل هذه الجسيمات		Translating the passive form into an active form	Verbal noun 'اعتراض'	
The best shields are made of hydrogen-rich materials such as polyethylene or water; heavier atoms are not as effective, because the proton collisions can dislodge the atoms' neutrons, triggering a dangerous cascade of radiation.		وتصنع أفضل الدروع من مادة غنية بالهيدروجين، مثل البولي إيثيلين أو الماء؛ أما الذرات الأثقل فليبت فعالة		Translating the passive form into a passive form	Passive verb	Measure I - Imperfect passive
A manned craft, though, would need precise guidance during the descent, because it would have to land very close to the unmanned cargo vehicle that would have been sent to Mars earlier..		لكن السفينة المأهولة تتطلب توجيهها دقيقاً خلال هبوطها، إذ يتعين عليها الهبوط قريباً جداً من المركبة غير المأهولة التي تحوي حمولة، والتي أرسلت إلى المريخ في وقت سابق		Translating the passive form into a passive form	Passive verb	Measure IV - Perfect passive
According to the plan, the lander is sent to Mars unmanned, in advance of the crew.		ووفقاً للخطة المرسومة، ترسل المركبة إلى المريخ شاعرة قبل إرسال الملاحين.		Translating the passive form into a passive form	Passive verb	Measure IV - Imperfect passive
A speed that would be a casual stroll here is best handled as a run on Mars.		والانندفاع اللازم لتجول متمهل على الأرض يؤدي إلى ركض على المريخ.		Translating the passive form into an active form	Active verb with active meaning	Measure II

The topography gets more interesting on the rim of Valles Marineris, which is thought to resemble the Canyonlands in Utah.		وتصبح الطبوغرافيا أكثر إثارة للاهتمام على حافات فاليس مارينيريس Valles Marineris الذي يعتقد بأنه يشبه كانيونلانديس Canyonlands بولاية يوتا الأمريكية.		Translating the passive form into a passive form	Passive verb	Measure VIII - Imperfect passive
Because the Red Planet utterly lacks liquid water, which mops up fine particulates on Earth, it is covered in dust with an average grain size of about two microns comparable to cigarette smoke.		ولما كان الكوكب الأحمر يفتقر كليا إلى الماء السائل، الذي يخلص الأرض من مثل هذه الجسيمات الدقيقة، فإنه مغطى بغبار		Translating the passive form into a passive form	Passive participle	Passive participle, and verbless nominal clause بغبار مغطى فإنه
In addition, Viking lander analyses suggest that particles are coated with corrosive chemicals such as hydrogen peroxide.		وإضافة إلى ذلك، توحي تحليلات مركبتى فايكنج بأن الجسيمات مغطاة بمواد كيميائية حادة مثل بيروكسيد الهيدروجين		Translating the passive form into a passive form	Passive participle	Measure II - passive participle X مغطاة، verbless nominal clause مغطاة الجسيمات حادة كيميائية بمواد بيروكسيد مثل الهيدروجين
Being magnetized and electrically charged , the dust sticks to everything, and water will be in short supply.		ولما كان الغبار مغناطى ومشحوناً كهربائياً فإنه يلتصق بأي شيء، وسيسفر ذلك عن نقص في إمدادات		1st: Translating the passive form into a passive form	Verbal phrase consisting of كان followed by its complement a passive participle	Measure I - quadrilateral form
electrically charged , the dust sticks to everything, and water will be in short supply.		ومشحوناً كهربائياً ، فإنه يلتصق بأي شيء، وسيسفر ذلك عن نقص في إمدادات		2nd: Translating the passive form into a passive form	Passive participle	
A 1992 National Research Council report concluded that the existence of extant or dormant life on Mars should be resolved before astronauts are sent .		وفي تقرير قدمه المجلس القومي للبحوث عام 1992 ذكر فيه أن مسألة وجود حياة نشيطة أو هاجمة على المريخ يجب أن تُحل قبل إرسال رواد فضاء إليه		1st: Translating the passive form into a passive form	Passive verb	Measure I - Imperfect passive. geminate roots: yu-fafifi-u
before astronauts are sent .		قبل إرسال رواد فضاء إليه		2nd: Translating the passive form into an active form	Compound structure - adverbial phrase + verbal noun	Adverbial phrase 'إرسال قبل' إليه فضاء رواد 'إرسال' with a verbal noun 'إرسال'
"Our fundamental understanding of the overall geological history of the moon is largely derived from the last three Apollo missions."		"إن فهمنا الأساسي لإجمالي التاريخ الجيولوجي للقمر يستمد في معظمه من بعثات أبولو الثلاث الأخيرة."		Translating the passive form into a passive form	Passive verb	Measure X - Imperfect passive
The theory that liquid water was once stable on Mars has been bolstered by the Mars Global Surveyor probe,	by the Mars Global Surveyor probe	تقد دُعمت النظرية القائلة بأنه كان يوجد في وقت من الأوقات ماء سائل على المريخ بالصور التي أخذها مسبار الماسح الشامل للمريخ	ب	Translating the passive form into a passive form	Passive verb	Measure I - Perfect passive
which photographed a channel last year that appeared to have been deeply incised by water flowing for hundreds if not thousands of years. Mars Global Surveyor	by water flowing	الأوقات ماء سائل على المريخ بالصور التي أخذها مسبار الماسح الشامل للمريخ Surveyor Global Mars في عام 1999 لفتنال بدا أنه شيق بعميق يفعل مياه جرت فيه قبل مئات، إن لم يكن آلاف، من السنين	بفعل مياه جرت	Translating the passive form into a passive form	Passive verb	Measure I - Perfect passive

Pathfinder <u>was hailed</u> as a vindication of the paradigm,		لقد جرى الترحيب بإنجاز هذه المركبة الفضائية باعتباره إثباتاً لفاعلية هذا الأسلوب في استكشاف الفضاء.		Translating the passive form into an active form	Compound structure - a verb 'جرى' followed by a verbal noun 'ترحيب'	
The failures will almost certainly mean a longer wait before people <u>are sent</u> to the planet.		إن هذين الإخفاقين سيغنيان، على نحو شبه مؤكد، أن علينا التريث مدة أطول <u>قبل إرسال</u> أناس إلى هذا الكوكب .		Translating the passive form into an active form	Compound structure - adverbial phrase + verbal noun	Adverbial phrase ' قبل ' هذا إلى أناس إرسال 'الكوكب' with a verbal noun 'إرسال'
example, says that “if we are serious about resolving the question of life on Mars—and not just whether it’s there but also how far it may have evolved in the past—humans <u>are required</u> .”		وعلى سبيل المثال، يقول: “لو أننا جادون في حل مسألة الحياة على المريخ، وليس الاقتصار على معرفة ما إذا كانت موجودة هناك، وإنما أيضا معرفة المدى الذي ربما بلغته في الماضي، فلا بد من الاستعانة بالبشر للتوصل إلى ذلك		Translating the passive form into an active form	Compound structure - Modal structure that consists of فلا بد plus another element: a verbal noun 'الاستعانة'	
The greater number of launches would mean that the robotic program would take much longer, because opportunities to travel from Earth to Mars <u>are rather limited</u> .		ويعني العدد الأكبر من هذه العمليات أن البرنامج الإنساني سيستغرق وقتا أطول، لأن فرص السفر من الأرض إلى المريخ <u>محدودة</u> إلى حد ما.		Translating the passive form into a passive form	Passive participle	Measure I - passive participle.
when the planets <u>are positioned</u> so that the trip takes less than a year.		وذلك عندما تكون مواقع الكواكب <u>موزعة</u> بطريقة ملائمة تجعل الرحلة إلى المريخ تستغرق أقل من عام.		Translating the passive form into a passive form	Passive participle	Measure II - Passive participle (as complement of تكون).
The problem is that so little <u>is known</u> about several key factors that any analysis must depend on some largely arbitrary assumptions.		فالمشكلة هي أننا لا نعرف سوى القليل عن عدة عوامل رئيسية، وبالتالي فإن أي تحليل يجب أن		Translating the passive form into an active form	Active verb with active meaning	
the small Sojourner rover <u>delivered by</u> Pathfinder traveled just 106 meters	by Pathfinder	فالإنسالة الجواله الصغيرة Sojourner، التي <u>أطلقتها</u> باتفايندر، لم تسر سوى 106 أمتار	'by-phrase' does not have an equivalent	Translating the passive form into an active form	Relative clause - 'التي' followed by a verb 'أطلقتها'	

<p>"Few of the ones we've been to could have been <u>accessed</u> <u>by</u> a nonspecialized rover.</p>	<p>by a nonspecialized rover</p>	<p>وربما كان من الممكن الوصول إلى العدد القليل الذي بلغناه منها من قبل جولة غير متخصصة."</p>	<p>من قبل</p>	<p>Translating the passive form into an active form</p>	<p>Compound structure - Modal structure that consists of الممكن plus another element: a verbal noun 'وصول', its subject an active participle</p>
<p>Squyres, a professor of astronomy at Cornell University, notes that more robotic missions to Mars <u>are needed</u> to answer those questions.</p>		<p>ويلاحظ سكويرز - وهو أستاذ لعلم الفلك في جامعة كورنيل - أن نمة حاجة إلى مزيد من البعثات الإنسانية إلى المريخ للإجابة عن تلك الأسئلة .</p>		<p>Translating the passive form into an active form</p>	<p>Nominal clause</p>
<p>To distinguish themselves on the world's stage, international corporations may contribute capital or technology in exchange for the publicity value of <u>being associated</u> with a Mars mission or for the new technologies, broadcast rights or other potentially lucrative spin-offs.</p>		<p>فكي تبرز الهيئات الدولية نفسها على المسرح العالمي، قد تسهم في تقديم رؤوس الأموال أو التقانة مقابل الدعاية لنفسها بأنها مرتبطة ببعثة إلى المريخ،</p>		<p>Translating the passive form into an active form</p>	<p>Active participle with active meaning</p>

Table 3: 2016-2018 original passive structures

Arabic original passive structure	'By-phrase' used in Arabic	Type of verb used	Grammatical analysis of the Arabic passive verb
فنظام الإشارة الذي <u>يعُول</u> عليه لنقل بيانات مُستقاة من كوكب المريخ		Passive verb	Imperfect passive - Measure II
<u>ويُعد</u> برنامج «إكسومارس» الفضائي		Passive verb	Imperfect passive - Measure I
قد <u>جُذبت</u> في أي وقت مضى على سطح المريخ		Passive verb	Perfect passive - Measure I
الالتزام بالعود التي <u>قُطعت</u> بالفعل داخل الاتحاد الأوروبي		Passive verb	Perfect passive - Measure I
لم <u>تُلاحظ</u> قط في كوكب الزهرة		Passive verb	Imperfect passive - Measure I
<u>وُدعي</u> "فينوس أكسبريس".		Passive verb	Imperfect passive - Measure I
<u>تُقدر</u> بحوالي 261 مليون كيلومتر		Passive verb	Imperfect passive - Measure II
<u>يُعد</u> ثاني أقرب الكواكب للشمس		Passive verb	Imperfect passive - Measure I
<u>نُشرت</u> مؤخرًا في دورية "نيتشر أسترونومي"،		Passive verb	Imperfect passive - Measure I
إلا أن الدراسة الجديدة <u>تُعد</u> هي الأولى من نوعها		Passive verb	Imperfect passive - Measure I
لم <u>تُلاحظ</u> قط في كوكب الزهرة		Passive verb	Imperfect passive - Measure IV
فيما <u>يُعرف</u> بظاهرة الاحتباس الحراري		Passive verb	Imperfect passive - Measure I
التي <u>يُكشف</u> فيها أن طبوغرافية الكوكب		Passive verb	Imperfect passive - Measure I
<u>طُرحت</u> مسابقة عالمية، تقدم لها		Passive verb	Perfect passive - Measure I
ففي عام 1920، عندما <u>اخترعت</u> الطائرة		Passive verb	Perfect passive - Measure VIII
التحقت ببرنامج بوسوم Possum الذي يعمل في أكثر من اتجاه في مجال الفضاء على رأسها ما <u>يُعرف</u> بعلم السحاب		Passive verb	Imperfect passive - Measure I
وقد <u>عُدّ</u> ذلك مهمًا جدًا		Passive verb	Perfect passive - Measure I
بدأ برنامج بوسوم -الممول جزئيًا من وكالة ناسا- بتأهيل علماء <u>يُطلق</u> عليهم		Passive verb	Imperfect passive - Measure IV
هذا التأهيل <u>يُعد</u> مهمًا جدًا لتفهم التحديات		Passive verb	Imperfect passive - Measure I
الجديد في الرحلة أن المركبة التي ستمطيتها <u>وُدعي</u> لينكس مارك تو		Passive verb	Imperfect passive - Measure I
من الممكن أيضًا أن <u>يُطلب</u> من فريق العمل إجراء		Passive verb	Imperfect passive - Measure I
<u>أجريت</u> مسابقة على مستوى محافظات		Passive verb	Perfect passive - Measure IV
<u>وُتعدّ</u> الأولى من نوعها في الشرق الأوسط		Passive verb	Imperfect passive - Measure I
خاصة في دولة الإمارات التي <u>تُعدّ</u> الدولة العربية الأكثر تقدمًا		Passive verb	Imperfect passive - Measure I
إذ <u>سُيطلب</u> من المتسابقين اقتراح		Passive verb	Imperfect passive - Measure I
<u>وتُقَدَّر</u> درجة حرارة سطح الكواكب المكتشفة		Passive verb	Imperfect passive - Measure II
ولكن فيما عدا ما ذكرنا في السابق كحقائق مؤكدة موجودة بالتفاصيل والأرقام في الورقة البحثية التي <u>نُشرت</u> اليوم 22 فبراير في العدد الأسبوعي		Passive verb	Perfect passive - Measure I
<u>يقدر</u> بألف ضعف		Passive verb	Imperfect passive - Measure II
ورغم جده ما حملته نتائج تلك الدراسة - التي <u>نُشرت</u> في مجلة هيومان ريبيرودكشين		Passive verb	Perfect passive - Measure I
وفق ما جاءت به دراسة بريطانية <u>أجريت</u> في وحدة بحوث التوائم		Passive verb	Perfect passive - Measure IV
وهو ما تؤكد دارة أخرى <u>أجريت</u> في جواتيمالا عام 2016		Passive verb	Perfect passive - Measure IV
في دراسة <u>أجريت</u> في الولايات المتحدة الأمريكية		Passive verb	Perfect passive - Measure IV

التي تُعرف بأنها أي خلية موجودة		Passive verb	Imperfect passive - Measure I
ذلك الإنجاز يُعد بمنزلة فتح الصندوق الأسود		Passive verb	Imperfect passive - Measure I
استنتج العلماء وجود نوع آخر من الخلايا يُسمى بالخلايا الجذعية		Passive verb	Imperfect passive - Measure II
يُطلق عليها المُضغمة- التي تُشكل الجنين في وقت لاحق		Passive verb	Imperfect passive - Measure IV
أما الثاني فاستُخدم في إنتاج المشيمة التي تساعد على تغذية الجنين		Passive verb	Perfect passive - Measure X
مُنعت داخل أرحام فئران التجارب		Passive verb	Perfect passive - Measure I
وهل يُمكن وصف إعدام الأجنة التي تُنتج داخل الأبقار بالقتل؟		Passive verb	Imperfect passive - Measure IV
وأعطى جميع الأطفال دون سن الخامسة		Passive verb	Perfect passive - Measure IV
فيما أعطى أطفال آخرون		Passive verb	Perfect passive - Measure IV
تبيّن أن الأطفال الذين عولجوا بالمضاد الحيوي		Passive verb	Perfect passive - Measure III
ويُستخدم على نطاق واسع		Passive verb	Imperfect passive - Measure X
والتي تُعد أكثر مسببات وفيات الأطفال		Passive verb	Imperfect passive - Measure I
ويُؤكده الاهتمام إلى الهرمونات بأنها السبب		Passive verb	Imperfect passive - Measure II
هكذا أعلن ماثيو مع فريق من العلماء في دراسة نُشرت حديثاً في دورية كارنت بيولوجي		Passive verb	Perfect passive - Measure I
مرت بمرحلة البلوغ أسرع من المجموعة التي وُلدت في وقت متأخر من الموسم		Passive verb	Perfect passive - Measure I
ترى أن أنواع سلوك المراهقين تتحكم فيها الأسرة وطريقة تعاملهم مع هذه الفترة الحرجة التي يكون المراهق نفسه فيها متخبطاً بين كونه رافضاً أن يُعامل كطفل		Passive verb	Imperfect passive - Measure III
إلى أن جمجمة البقرة تُغر عليها في موقع "نيوليثي"		Passive verb	Perfect passive - Measure I
وقد توفر نتائج التحاليل التي أُجريت على تلك الجمجمة		Passive verb	Perfect passive - Measure IV
وقد توفر نتائج التحاليل التي أُجريت على تلك الجمجمة أول دليل على تجارب جراحية أُجريت على حيوان في الفترة بين 3400 إلى 3000 سنة		Passive verb	Perfect passive - Measure IV
وتتوافر أدلة على جراحات أُجريت للبشر		Passive verb	Perfect passive - Measure IV
غير أن الجمجمة شبه الكاملة للبقرة تُعد أول دليل يُعثر عليه حتى الآن		Passive verb	Imperfect passive - Measure I
تُعد أول دليل يُعثر عليه حتى الآن		Passive verb	Imperfect passive - Measure I
استخدمت التقنيات نفسها التي استُخدمت على البشر		Passive verb	Perfect passive - Measure X
إن الثقب صُنِع بواسطة آلة حادة	بواسطة	Passive verb	Perfect passive - Measure I
يُنكر أن باحثين عثروا قبل نحو 70 عاماً		Passive verb	Imperfect passive - Measure I
يُنكر أن باحثين عثروا قبل نحو 70 عاماً على جماجم خنازير بريّة يعتقد أن البشر أجروا لها عمليات		Passive verb	Imperfect passive - Measure VIII
، ما يعني أن "التجربة" أُجريت على حيوان ميت		Passive verb	Perfect passive - Measure IV
وُجد على قواعد الشجر الميت		Passive verb	Perfect passive - Measure I
وأجرى جزء كبير منها داخل المعامل المصرية		Passive verb	Perfect passive - Measure IV
وتُعد مادة الجلوتاثيون		Passive verb	Imperfect passive - Measure I
ولا يُؤكل رغم كونه غير سام		Passive verb	Imperfect passive - Measure I
لكن يتم استخلاص المواد المفيدة منه طبيّاً في كبسولات تُؤخذ عن طريق الفم		Passive verb	Imperfect passive - Measure I
كما يُستخدم كمضاد للفيروسات والميكروبات أيضاً		Passive verb	Imperfect passive - Measure X
وهذا يجعله مماثلاً لأحد الأدوية الحالية التي تُستخدم في علاج الأورام		Passive verb	Imperfect passive - Measure X
ولذلك يُستخدم في كثير من الصناعات		Passive verb	Imperfect passive - Measure X
إلا أنه يُعد -في الوقت ذاته- من أخطر العناصر		Passive verb	Imperfect passive - Measure I

الدراسة التي نُشرت تفاصيلها في دورية "ماتريال كيمستري أ"	Passive verb	Perfect passive - Measure I
وُتُعرف باسم مركبات الأطر المعدنية العضوية	Passive verb	imperfect passive - Measure I
أو تصميمها لكي تمتص أيونًا محددًا كمثل التي استُخدمت في هذا البحث	Passive verb	Perfect passive - Measure X
وُتُعد الأطر المعدنية العضوية	Passive verb	Imperfect passive - Measure I
وهي من المرونة بحيث يمكن تصميمها وتخليقها وفق الغرض الذي أُعدت من أجله	Passive verb	Perfect passive - Measure IV
وُتُعدُّ أهم ميزة تمكّن الفريق البحثي من توفيرها	Passive verb	Imperfect passive - Measure I
والبيضة كان زلالها يُستخدم لمنع عوامل الطقس	Passive verb	Imperfect passive - Measure X
تُعرف علمياً بالربط الجزيئي المتشابك	Passive verb	imperfect passive - Measure I
الذي يُعد جزءاً أساسياً من الثروة التكنولوجية الحديثة	Passive verb	Imperfect passive - Measure I
جرت صناعة أول أكاسيده (ثاني أكسيد التيتانيوم TiO2) للاستفادة منها كعنصر مبيض يُستخدم في معاجين الأسنان.	Passive verb	Imperfect passive - Measure X
يُستخدم كحفاز ضوئي قوي	Passive verb	Imperfect passive - Measure X
وبالتالي حُسن كفاءة أكسيد التيتانيوم في التفاعلات الضوئية	Passive verb	Perfect passive - Measure II
يُستخدم كمرشح ومكثف	Passive verb	Imperfect passive - Measure X
فإن الطريقة الجديدة التي ابتكرها الفريق البحثي تُعد إنجازاً علمياً مهماً	Passive verb	Imperfect passive - Measure I
أُطلق عليها اسم "تيا"	Passive verb	Perfect passive - Measure IV
خرج علينا مجموعة من العلماء الأمريكيين بما عُرف بـ "فرضية" الاصطدام العملاق"	Passive verb	Perfect passive - Measure I
يُنكر أن الأرض تكونت منذ 4.5 مليارات عام	Passive verb	Imperfect passive - Measure I
الذي يُعتقد أنه نتج من انهيار سديم عملاق	Passive verb	Imperfect passive - Measure VIII
تشير الدراسة إلى أن الباحثين طوروا تقنيةً لتخطيط الخلايا تُسمى "العدد الكلي للخلايا"	Passive verb	Imperfect passive - Measure II
إنه لم يُعرف ذلك حتى الآن	Passive verb	Imperfect passive - Measure I
وُتُعد من أولى الدراسات التي تتناول تأثير	Passive verb	Imperfect passive - Measure I
إن محاولتنا لإعادة بناء أدمغة اليناندرتال لاستنتاج الاختلافات الوظيفية المحتملة بين النوعين -الإنسان البدائي والإنسان العاقل- تُعد الأولى من نوعها في التاريخ	Passive verb	Imperfect passive - Measure I
وُلد من دم، وخاض معركة	Passive verb	Perfect passive - Measure I
فوفق دراسة علمية نُشرت مؤخراً في دورية "نيتشر كومونيكيشن"	Passive verb	Perfect passive - Measure I
علاوة على الهيدروجين الحزبي الذي يُمكن أن يُنتج	Passive verb	Imperfect passive - Measure IV
أو يُستخدم في نمو الكائنات	Passive verb	Imperfect passive - Measure X
، والتي تُعد مؤشراً على النشاط الهيدروحراري	Passive verb	Imperfect passive - Measure I
وقالت البيانات إن ذلك القمر ينفث أبخرة لسوائل يُشبهه في كونها دافئة،	Passive verb	Imperfect passive - Measure VIII
، وُتُعد تلك العملية إحدى أكثر العمليات الحيوية	Passive verb	Imperfect passive - Measure I
كائنات دقيقة تُعرف بمولدات الميثان	Passive verb	Imperfect passive - Measure I
قدمت دراسة سابقة نُشرت في مجلة "ساينس"	Passive verb	Perfect passive - Measure I
في محاولة لفهم سلوك الميكروبات التي يُحتمل وجودها على "إنسيلادوس"،	Passive verb	Imperfect passive - Measure VIII
يُستخدم في العديد من التطبيقات كالهواتف والحواسيب المحمولة التي يتم شحنها	Passive verb	Imperfect passive - Measure X
أو ما يُعرف بالمصباح الليد ذي فرق جهد 5 فولت	Passive verb	Imperfect passive - Measure I
وُتُعد على استخدام تلك البطاريات	Passive verb	Imperfect passive - Measure II
الأمر الذي سيُعد نقلة نوعية في عالم السيارات	Passive verb	Imperfect passive - Measure I

إذ إن الصلب المقاوم للصدأ لا يُعد مادةً قياسيةً		Passive verb	Imperfect passive - Measure I
إن التحليل الطيفي يُستخدم لدراسة الضوء		Passive verb	Imperfect passive - Measure X
، لذلك يُعدُّ موقعه مثاليًا للرصد		Passive verb	Imperfect passive - Measure I
رغم أن ذلك لم يُكتشف بعد		Passive verb	Imperfect passive - Measure VIII
بدليل أن مجموعتنا الشمسية تُعدُّ استثناءً من ذلك		Passive verb	Imperfect passive - Measure I
تُقدر بحوالي 5% فقط من الطاقة الكهربائية		Passive verb	Imperfect passive - Measure II
إلا أن أيًا من تلك المراسد لم يُصمَّم من أجل دراسة		Passive verb	Imperfect passive - Measure II
صُمم تلسكوب جيمس ويب الفضائي من قِبَل مركز غودارد لرحلات الفضاء	من قِبَل	Passive verb	Perfect passive - Measure II
أدى مرصد كبلر الذي أُطلق عام 2009		Passive verb	Perfect passive - Measure IV
المرصد يستخدم تقنية كشف غير مباشرة تُعرف ف بطريقة العبور		Passive verb	Imperfect passive - Measure I
وتؤكد نظريات سابقة بُنيت		Passive verb	Perfect passive - Measure I
الدراسة التي حلَّت السجلات الطبية وتفاصيل التصوير بالموجات فوق الصوتية لأكثر من أربعمئة طفل وُلدوا في مركز بوسطن الطبي		Passive verb	Perfect passive - Measure I
بل وُجد، في الواقع، أن مجموعة الأطفال المصابين		Passive verb	Perfect passive - Measure I
يعرِّز هذا الاكتشاف نتائج دراسات سابقة كانت قد أشارت إلى أن التصوير بالموجات فوق الصوتية -الذي يُستخدم فيه موجات صوتية عالية التردد لرسم صورة للجنين والمشيمة وأعضاء الأم المحيطة بالجنين- ليس خطرًا بيئيًا قويًا		Passive verb	Imperfect passive - Measure X
التي نُشرت يوم الإثنين في دورية "جاما بيدياتريكس"		Passive verb	Perfect passive - Measure I
مستوى سطح البحر يرتفع بوتيرة أسرع مما يُعتقد		Passive verb	Imperfect passive - Measure VIII
الدراسة هي المحاولة الأولى من نوعها لتحديد مجموعة من العوامل يمكن أن تُعزى إليها زيادة التسارع في ارتفاع سطح البحر		Passive verb	Imperfect passive - Measure I
الدراسة هي المحاولة الأولى من نوعها لتحديد مجموعة من العوامل يمكن أن تُعزى إليها زيادة التسارع		Passive verb	Imperfect passive - Measure I
إن تقديرات مقياس المد تُعد ضرورية لتقييم		Passive verb	Imperfect passive - Measure I
وتُقدر بنصف مساحة الدلتا		Passive verb	Imperfect passive - Measure II

Table 4: 2016-2018 translated passive structures

English source text	'By-phrase' used in English	Arabic target text	'By-phrase' used in Arabic	Type of verb used to translate the English passive verb (Active - Passive form)	Specific procedure used	Grammatical analysis of the Arabic passive verb
But this is a first where their thermal characteristics <u>were used</u> as indicators to separate healthy cells from diseased ones.		لكن هذه هي المرة الأولى التي <u>تُستعمل</u> فيها خصائصها الحرارية كمؤشرات لفصل الخلايا السليمة عن تلك المريضة		Translating the passive form into a passive form	Passive verb	Measure X - Imperfect passive
When the living cell <u>was swapped</u> with breast and cervical cancer cells in the lab, the nanomembrane similarly revealed their		عندما <u>استُبدلت</u> بالخلية الحية خلايا سرطان الثدي وسرطان عنق الرحم في المختبر، كشف الغشاء النانوي بطريقة مماثلة		Translating the passive form into a passive form	Passive verb	Measure X - Perfect passive
and electronic properties of pure crystalline perovskite films that <u>are made of</u> methylammonium lead iodide ¹ .		المجهرية الخصائص البصرية والإلكترونية لرقائق البيروفسكايت البلورية النقية <u>المصنوعة</u> من ميثيل أمونيوم يود الرصاص ¹ . 2016-		Translating the passive form into a passive form	Passive participle 'المصنوعة'	Measure I passive participle.
These films have low number of traps, which <u>are usually generated</u> due to impurities and defects in materials. Such traps can capture mobile electrons,		تمتلك هذه الرقائق عددًا قليلًا من الفخاخ، التي <u>تنشأ</u> عادة بسبب شوائب وعيوب المواد. ويمكن لهذه الفخاخ أن		Translating the passive form into an active form	Relative clause 'التي' followed by a verb 'تنشأ'	Measure I
The star <u>is known as</u> TRAPPIST-1 and the discovery of its seven orbiting planets is the result of more than a thousand hours		<u>يُعرف</u> هذا النجم باسم ترابيست-1، واكتشاف الكواكب السبعة التي تدور حوله هو	-	Translating the passive form into a passive form	Passive verb	Measure I - Imperfect passive
"This is the first time that so many planets of this kind <u>are found</u> around the same star. They form a very compact system- "		هذه هي المرة الأولى التي <u>يُشتر</u> فيها على هذا العدد الكبير من الكواكب من هذا النوع حول نفس النجم. إنها تشكل		Translating the passive form into a passive form	Passive verb	Measure I - Imperfect passive
now derives its name. Its twin, at Oukaïmeden Observatory in Morocco, <u>was developed</u> more recently to cover the northern as well as southern hemisphere.		الكوكبي المكتشف حديثًا. أما توأمه، مرصد أوكايمدن في المغرب، <u>فقد جرى تطويره</u> مؤخرًا لتغطية نصف الكرة الشمالي، وكذلك الجنوبي.		Translating the passive form into an active form	'Be accomplished' verb 'جرى' followed by a verbal noun	This could also be categorised as a medio-passive
hosts seven planets that may sustain life published today in Nature, show 34 clear passes in front of the star, which can <u>be attributed</u> to seven different planets. The final planet <u>was captured</u> passing only once.		ذلك، ونشرت أمس الأول في دورية، 34 مرورًا واضحًا، <u>يمكن عزوها</u> إلى سبعة كواكب مختلفة. وقد أمكن التقاط مرور الكوكب الأخير مرة واحدة فقط. 2017-		1st: Translating the passive form into an active form	Compound structure - Modal structure that consists of يمكن plus another element: a verbal noun 'عزوها'	

<p>The final planet was captured passing only once.</p>		<p>وقد أمكن التقاط مرور الكوكب الأخير مرة واحدة فقط. 2017-</p>		<p>2nd: Translating the passive form into an active form</p>	<p>Compound structure - Modal structure that consists of أمكن plus another element: a verbal noun 'التقاط'</p>	
<p>according to preliminary estimates. From here on in additional observations are still needed to thoroughly characterize these planets, particularly the seventh,</p>		<p>للتقديرات الأولية. انطلاقاً من هنا، لا تزال هناك حاجة إلى ملحوظات إضافية من أجل وضع توصيف دقيق هذه الكواكب، وخاصة السابع منها، 2017-</p>		<p>Translating the passive form into an active form</p>	<p>Nominal clause</p>	
<p>Small stars are good targets for finding Earth-sized planets, because a significant proportion of their light is blocked when they pass across the face of the star.</p>		<p>تمثل النجوم الصغيرة أهدافاً جيدة للعثور على كواكب بحجم الأرض؛ لأن نسبة كبيرة من ضوءها تُحجب عند مرورها بمواجهة النجم.</p>		<p>Translating the passive form into a passive form</p>	<p>Passive verb</p>	<p>Measure I - Imperfect passive</p>
<p>most of their light. These telescopes are currently being built at the Paranal Observatory, Chile.</p>		<p>البرودة معظم ضوءها. ويجري حالياً بناء هذه التلسكوبات في مرصد بارانال في صحراء أتاكاما التشيلية.</p>		<p>Translating the passive form into an active form</p>	<p>Verbal noun 'بناء'</p>	<p>The use of يجري with the verbal noun بناء</p>
<p>modern humans outside Africa and the Levant, has been found in the Nefud Desert. It shows that our species had spread beyond Africa much earlier than previously thought.</p>		<p>عُثر على أول اكتشاف أحفوري للإنسان العاقل (<i>Homo sapiens</i>) في المملكة العربية السعودية، وأقدم أحفورة مؤرخة للإنسان الحديث خارج أفريقيا وبلاد الشام</p>	<p>-</p>	<p>Translating the passive form into a passive form</p>	<p>Passive verb</p>	<p>Measure I - Perfect passive</p>
<p>at least 85,000 years old. The find is reported in a study published today in Nature Ecology and Evolution1.</p>		<p>عمره بـ85 ألف سنة على الأقل. وقد أُشير إلى هذا الكشف في دراسة نُشرت اليوم في Nature Ecology and Evolution1. 2018-</p>		<p>1st: Translating the passive form into a passive form</p>	<p>Passive verb</p>	<p>Measure IV - Perfect passive</p>
<p>in a study published today in Nature Ecology and Evolution1.</p>		<p>في دراسة نُشرت اليوم في Nature Ecology and Evolution1. 2018</p>		<p>2nd: Translating the passive form into a passive form</p>	<p>Passive verb</p>	<p>Measure I - Perfect passive - The English verb is a reduced passive (passive participle) 'published'</p>
<p>The team was led by Michael Petraglia at the Max Plank Institute for Science of Human History, Jenna, who describes the discovery as “a dream come true” and says it was “like finding the needle</p>	<p>by Michael Petraglia</p>	<p>قائد الفريق مايكل بتراجليا من معهد ماكس بلانك لعلوم التاريخ البشري يصف هذا الاكتشاف بأنه “حلم تحقق” ويقول إنه “يشبه العثور على ابرة في كومة قش</p>	<p>‘by-phrase’ does not have an equivalent</p>	<p>Translating the passive form into an active form</p>	<p>Nominal clause</p>	

<p>“Traditionally, the movement of modern humans out of Africa, has been conceived of as a single rapid movement 60,000 years ago,” says Petraglia. ”</p>		<p>تقليدياً، كان المعتقد أن حركة البشر المعاصرين للخروج من أفريقيا، كانت حركة واحدة سريعة حدثت منذ 60,000 سنة، وفق قول</p>		<p>Translating the passive form into a passive form</p>	<p>Verbal phrase consisting of كان followed by its complement a Passive participle 'المعتقد'</p>	<p>Measure VIII</p>
<p>The fossil was sent around the world to different labs for CT scanning to create a 3D model.</p>		<p>أرسلت الأحفورة حول العالم إلى مختبرات مختلفة لفحصها بالأشعة المقطعية لتشكيل نموذج ثلاثي الأبعاد.</p>	-	<p>Translating the passive form into a passive form</p>	<p>Passive verb</p>	<p>Measure IV - Perfect passive</p>
<p>says Groucutt. The fossil itself was directly dated with a technique called uranium series dating—direct dating is a more reliable method</p>		<p>جراوكت. وحدّد عمر الأحفورة نفسها مباشرة بتقنية التأريخ بتسلسل اليورانيوم -التأريخ المباشر طريقة أكثر موثوقية من التأريخ استناداً</p>		<p>Translating the passive form into a passive form</p>	<p>Passive verb</p>	<p>Measure II - Perfect passive</p>
<p>There has been limited archaeological attention given to traces of early humans outside Europe, until recently.</p>		<p>حتى وقت قريب، وُجّه اهتمام إحصائي محدود بآثار البشر الأوائل خارج أوروبا.</p>		<p>Translating the passive form into a passive form</p>	<p>Passive verb</p>	<p>Measure II - Perfect passive - the English verb is a reduced passive (passive participle only) 'given'</p>
<p>This meant that little fossil evidence of early humans was recovered in the lands between the Levant and eastern</p>		<p>وقد عني هذا الحصول على أدلة أحفورية قليلة عن البشر الأوائل في الأراضي الواقعة بين بلاد الشام وشرق أوراسيا، وفق تفسير بتراجليا.</p>		<p>Translating the passive form into an active form</p>	<p>Nominal clause</p>	
<p>says Christopher Bae, paleoanthropologist at University of Hawai‘i at Manoa, who was not involved with this study.</p>		<p>كريستوفر باي، عالم الإحاثة في جامعة هاواي في مانوا، الذي لم يكن مشاركاً في هذه الدراسة</p>		<p>Translating the passive form into an active form</p>	<p>Compound structure - verbal phrase 'يكن' followed by its complement an active participle</p>	<p>A complex structure لم يكن is a form of the verb كان, and شارك is an active participle.</p>
<p>Previously, the Arabian Peninsula has long been thought to be far from the main stage of human evolution. “This discovery firmly puts Arabia</p>		<p>في السابق، كان يُعتقد أن شبه الجزيرة العربية بعيدة عن الموقع الأساسي للتطور البشري. “هذا الاكتشاف</p>		<p>Translating the passive form into a passive form</p>	<p>Verbal phrase consisting of كان followed by its complement a Passive verb</p>	<p>Measure VIII - Imperfect passive</p>
<p>an international and multi-disciplinary effort that is propelled by ambition, and funding from the European Research Council.</p>	<p>by ambition</p>	<p>الصحاري القديمة، الذي يجري بجهد دولي متعدد التخصصات، يدفعه طموح كبير، وبدعمه تمويل من مجلس البحوث الأوروبي.</p>	<p>‘by-phrase’ does not have an equivalent</p>	<p>Translating the passive form into an active form</p>	<p>Relative clause 'الذي' followed by a verb 'يجري'</p>	

The Palaeodeserts team is based at the Max Planck Institute for the Science of Human History in Jenna, Germany and works in cooperation		يُخَدِّف فريق الصحاري القديمة من معهد ماكس بلانك لعلوم التاريخ البشري في جينا، ألمانيا مقرًا له	-	Translating the passive form into an active form	Active verb with active meaning	Measure VIII
people from all over the world who are very heavily involved — there are around 40 institutions involved in this project.		بين أشخاص من جميع أنحاء العالم يشاركون بكثافة في هذا المشروع؛ فتمه ما يقرب من 40 مؤسسة مشاركة في هذا المشروع. هناك		Translating the passive form into an active form	Active verb with active meaning	Measure III
— there are around 40 institutions involved in this project.		؛ فتمه ما يقرب من 40 مؤسسة مشاركة في هذا المشروع. هناك بعض		Translating the passive form into an active form	Active participle with active meaning 'مشاركة'	Measure III
We have about 80m of drill core sediments, which were mailed to our labs here in Germany and now we've put together a large		لدينا ما يقرب من 80 مترًا من رواسب الحفر الأساسية التي كانت تُرسل إلى مختبرنا هنا في ألمانيا،		Translating the passive form into a passive form	Verbal phrase consisting of كان followed by its complement a Passive verb 'أُرسل'	Measure IV - Imperfect passive
This is the largest planetary system discovered outside our solar system to date and was published in the journal Nature.		ويُعد "ترانبيت-1" النظام الكوكبي الأكبر الذي اكتُشف خارج المجموعة الشمسية حتى اليوم، وقد نُشر هذا الاكتشاف في دورية 2		1st: Translating the passive form into a passive form	Passive verb	Measure VIII - Perfect passive - the English verb is a reduced passive (passive participle only) 'discovered' and 'published'?
and was published in the journal Nature.		وقد نُشر هذا الاكتشاف في دورية 2		2nd: Translating the passive form into a passive form	Passive verb	Measure I - Perfect passive
More than a hundred new genes linked to determining hair colour have been revealed in a new large-scale study reported in Nature Genetics1.		الكشف عن أكثر من مئة جين جديد مرتبط بتحديد لون الشعر في دراسة جديدة واسعة النطاق نُشرت في Nature Genetics		Translating the passive form into a passive form	Passive verb	Measure I - Perfect passive
their genomes, they pinpointed 124 genes significantly associated with hair colour; one of which was on the X chromosome. Only 13 of these had been previously identified .		جينوماتهم، حددوا 124 جينًا مرتبطًا إلى حد كبير بلون الشعر، وكان أحدها على الكروموسوم X. وكان 13 جينًا فقط منها قد حُددت مسبقًا.		Translating the passive form into a passive form	Passive verb	Measure II - Perfect passive
Variations in single nucleotides, the building blocks of DNA, were found to be responsible for about 35% of red hair,		وتبين أن التغيرات في النكليوتيدات الفردية، اللبنات الأساسية للحمض النووي، مسؤولة عن وراثته ما يقرب من 35٪ من الشعر الأحمر،	-	Translating the passive form into an active form	Medio-passive verb/participle 'تبين'	is active in form morphological (active) but medio-passive in (sense (meaning

<p>The study rooted out others in which mutations are known to cause pigmentation impairments, such as in Waardenburg syndrome, a condition that can cause hearing loss and colour irregularities in hair, eyes and skin.</p>		<p>الصبغة التي تحدد لون البشرة والشعر، وبعضها الآخر المعروف بأن طفراته تسبب خللاً في التصبغ، كما هو الحال في متلازمة واردينبرغ، وهي حالة يمكن أن تسبب فقدان السمع واضطرابات في تلون الشعر والعيون والجلد</p>		<p>Translating the passive form into a passive form</p>	<p>Passive participle 'المعروف'</p>	<p>Measure I</p>
<p>This is in line with previous similar findings that are based on objective measurement of hair colour, suggesting, the researchers write, that sex is associated with hair colour,</p>		<p>ويُتسق هذا مع نتائج سابقة مشابهة مستندة إلى القياس الموضوعي للون الشعر، مشيرًا وفق</p>		<p>Translating the passive form into an active form</p>	<p>Active participle with active meaning 'مستندة'</p>	<p>Measure VIII</p>
<p>This is in line with previous similar findings that are based on objective measurement of hair colour, suggesting, the researchers write, that sex is associated with hair colour,</p>		<p>ويُتسق هذا مع نتائج سابقة مشابهة مستندة إلى القياس الموضوعي للون الشعر، مشيرًا وفق رأي الباحثين- إلى أن الجنس يرتبط بلون</p>		<p>Translating the passive form into an active form</p>	<p>Active verb with active meaning</p>	<p>Measure VIII</p>
<p>Molecular epidemiologist, Jonas Mengel-From of the University of Southern Denmark, who was not involved in the research, says that self-reporting of hair colour can be subject to a degree of misclassification. Some people, for example, might</p>		<p>يقول عالم الوبائيات الجزيئية، جونا منغل فروم من جامعة جنوب الدنمارك، الذي لم يكن مشاركًا في البحث:- إن الإبلاغ الذاتي عن لون الشعر قد يخضع لدرجة من الخطأ في التصنيف</p>		<p>Translating the passive form into an active form</p>	<p>Compound structure - verbal phrase 'ليكن' followed by its complement an active participle 'مشاركًا'</p>	
<p>set of genetic data in which hair colour was known. Although predictions for brown and blond hair colour were less accurate, this can potentially help</p>		<p>البيانات الوراثية التي كان لون الشعر فيها معروفًا. على الرغم من أن توقعات لون الشعر البني</p>		<p>Translating the passive form into an active form</p>	<p>Compound structure - verbal phrase 'كان' followed by its complement an active participle 'معرفة'</p>	<p>Measure I</p>
<p>Grotte des Pigeons was occupied from around 23,000 to 12,000 years ago by the Iberomaurusian culture, which made fine stone</p>	<p>by the Iberomaurusian culture</p>	<p>في الفترة الممتدة بين 23000 و 12000 سنة خلت، كان كهف الحمام خاضعًا لاحتلال الإيبيروموربيين الذين</p>	<p>'by-phrase' does not have an equivalent</p>	<p>Translating the passive form into an active form</p>	<p>Compound structure - verbal phrase 'كان' followed by its complement an active participle 'خاضعًا'</p>	<p>Measure I</p>

<p>The Near-Eastern genetic connection is relatively clear, according to Iosif Lazaridis, of the Department of Genetics at Harvard Medical School who <u>was not involved</u> with the study.</p>		<p>إن الصلة الوراثية بالشرق الأدنى واضحة نسبيًا، وفقًا لقول يوسف لازاريدس، من قسم الوراثة في كلية الطب بجامعة هارفارد الذي لم يكن <u>مشاركًا</u> في الدراسة.</p>		<p>Translating the passive form into an active form</p>	<p>Compound structure - verbal phrase 'يكن' followed by its complement an active participle 'مشاركًا'</p>	
<p>"There are now enough ancient samples from the Middle East and Europe to be fairly sure that the Taforalt samples <u>were</u> indeed more closely <u>related</u> "</p>		<p>ثمة الآن ما يكفي من العينات القديمة من الشرق الأوسط وأوروبا للتأكد إلى حد ما من أن عينات تافورالت كانت بالفعل <u>أوثق صلة</u></p>		<p>Translating the passive form into an active form</p>	<p>Compound structure - verbal phrase 'كان' followed by its complement</p>	
<p>Following a seven-month, 60-million-km journey from Earth—the first by an Arab, Islamic country—Hope <u>is expected</u> to arrive at Mars in early 2021,</p>		<p>. ومن المتوقع أن يصل مسبار "الأمل" إلى المريخ بعد رحلة تستمر سبعة أشهر وتقطع مسافة 60 مليون كم من الأرض</p>		<p>Translating the passive form into a passive form</p>	<p>Passive participle 'المتوقع'</p>	<p>Measure V</p>
<p>Very little <u>is known</u> about the atmosphere and climate on the red planet, which the EMM says it wants to explore with its holistic study.</p>		<p>لا يتوافر لدينا الكثير من المعلومات حول الغلاف الجوي والمناخ</p>	<p>-</p>	<p>Translating the passive form into an active form</p>	<p>Medio-passive verb/participle 'يتوافر'</p>	<p>Measure VI</p>
<p>Hope <u>is being</u> entirely <u>designed and built by</u> a completely Emirati team, currently 75-strong <u>and expected</u> to reach 150 by 2020</p>	<p>by a completely Emirati team</p>	<p>ويعمل على تصميم مسبار "الأمل" وبنائه فريق إماراتي بالكامل، يصل عدد أفرادها إلى 75 شخصًا، ومن المتوقع أن يصل إلى 150 شخصًا بحلول عام 2020.</p>	<p>'by-phrase' does not have an equivalent</p>	<p>1st: Translating the passive form into an active form</p>	<p>Active verb with active meaning</p>	
<p>currently 75-strong and <u>expected</u> to reach 150 by 2020</p>		<p>ومن المتوقع أن يصل إلى 150 شخصًا بحلول عام 2020.</p>		<p>2nd: Translating the passive form into a passive form</p>	<p>Passive participle 'المتوقع'</p>	<p>Measure V</p>
<p>is operating under a strict budget. The total figure, however, <u>will</u> be <u>disclosed</u> once the project <u>has been completed</u>.</p>		<p>لاستكشاف المريخ يعمل في ظل ميزانية محددة، وسيتم الإفصاح عن الرقم النهائي بمجرد الانتهاء من المشروع</p>		<p>1st: Translating the passive form into an active form</p>	<p>'Be accomplished' verb 'تم' followed by a verbal noun</p>	
<p>once the project has been <u>completed</u>.</p>		<p>بمجرد الانتهاء من المشروع</p>		<p>2nd: Translating the passive form into an active form</p>	<p>Nominal clause</p>	

within the next 100 years. But so far, fewer details <u>have been released</u> on the Mars 2117 project, though the government has stated the first phase will focus on developing the researchers that <u>will be needed</u> to make the breakthroughs necessary to put humans		. ولكن حتى اليوم لم تُنشر سوى تفاصيل محدودة حول مشروع المريخ 2117، رغم أن الحكومة قد أعلنت أن المرحلة الأولى سوف تركز على تطوير الباحثين الذين ستحتاج إليهم لتحقيق هذه الطفرات اللازمة لتوصيل البشر إلى المريخ		1st: Translating the passive form into a passive form	Passive verb	Measure I - Imperfect passive
the researchers <u>that will be needed</u> to make the breakthroughs necessary to put humans		رغم أن الحكومة قد أعلنت أن المرحلة الأولى سوف تركز على تطوير الباحثين الذين ستحتاج إليهم لتحقيق هذه الطفرات اللازمة لتوصيل البشر إلى المريخ		2nd: Translating the passive form into an active form	Active verb with active meaning	The subject is 'الحكومة'
In parallel, the MBRSC <u>has been tasked</u> with developing a five-year plan covering the technological, logistical and technical aspects of the project.		وفي الوقت نفسه، وكل إلى مركز محمد بن راشد للفضاء مهمة وضع خطة خمسية تغطي الجوانب		Translating the passive form into a passive form	Passive verb	Measure II - Perfect passive
KU's Younes, who <u>is not affiliated</u> with the EMM, says it is plausible for the UAE to accomplish the projects		ويقول أحمد بونس - من جامعة خليفة، والذي لا يشارك في مشروع الإمارات لاستكشاف المريخ: إن نجاح دولة		Translating the passive form into an active form	Relative clause 'الذي' followed by a verb 'يشارك'	Measure III
Nubian Desert, raining fragments that <u>would become known</u> as the Almahata Sitta meteorites, after the Arabic name of the remote train station near which the fragments <u>were found</u> .		الصحراء النوبية، ممطرًا شظايا أصبحت تُعرف باسم شهب "المحطة 6"، وهو الاسم العربي لمحطة القطار النائية التي عُثر على شظاياها بالقرب منها.		1st: Translating the passive form into a passive form	Passive verb	Measure I - Imperfect passive
near which the fragments <u>were found</u> .		التي عُثر على شظاياها بالقرب منها.		2nd: Translating the passive form into a passive form	Passive verb	Measure I - Perfect passive
Now, <u>a team led by</u> Philippe Gillet of the Ecole Polytechnique Fédérale de Lausanne in Switzerland, <u>who was also involved</u> in the earlier research,	by Philippe Gillet	والآن، عمده فريق يقوده فيليب جيليت - من مدرسة البوليتكنيك الفيدرالية في لوزان، سويسرا، والذي كان مشاركًا أيضًا في الأبحاث السابقة.	'by-phrase' does not have an equivalent	1st: Translating the passive form into an active form	Active verb with active meaning	Measure I
who was also <u>involved</u> in the earlier research,		والذي كان مشاركًا أيضًا في الأبحاث السابقة.		2nd: Translating the passive form into an active form	Compound structure - verbal phrase 'كان' followed by its complement an active participle 'مشاركًا'	

clarity on protoplanets Gillet says the findings were a surprise, adding that models “have shown that such bodies populated the early solar system, but no clear evidence of their remnants <u>has been found</u> before.”		يقول جيليت إن هذه النتائج كانت مفاجئة، مضيفًا أن النماذج “أظهرت أن أجسامًا كهذه ملأت النظام الشمسي القديم، ولكن لم يسبق العثور على دليل واضح عن بقاياها”.		Translating the passive form into an active form	Verbal noun 'العثور'	There is a lot of grammatical transposition in this sentence. The English adverb ‘before’ is translated as the Arabic ‘temporal verb’ سبق ‘to happen before’, while the English passive verb ‘has been found’ is translated by the Arabic verbal noun العثور.
Matthias Meier, a meteor expert at ETH Zurich, who <u>was not involved</u> in		يقول ماتياس ماير -خبير النيازك في ETH Zurich (المعهد الفيدرالي السويسري للتكنولوجيا في زيورخ)، الذي لم يكن مشاركًا في هذه		Translating the passive form into an active form	Compound structure - verbal phrase 'كان' followed by its complement an active participle 'مشاركًا'	Measure III
GPS receivers—whether they <u>are installed</u> in ships at sea <u>or embedded</u> in wristwatches—calculate their latitude, longitude and altitude		وتقوم مستقبلات نظام تحديد المواقع GPS على الأرض، سواء كانت مثبتة في سفن في عرض البحر أو ضمن ساعات اليد، بحساب خطوط الطول والعرض والارتفاع،		1st: Translating the passive form into a passive form	Verbal phrase consisting of كان followed by its complement a Passive participle 'مثبتة'	Measure II
or <u>embedded</u> in wristwatches—calculate their latitude, longitude and altitude		أو ضمن ساعات اليد، بحساب خطوط الطول والعرض والارتفاع،		2nd: Translating the passive form into an active form	Nominal clause	Adverbial phrase
installed jammers, for example, on top of landmarks such as Saddam Hussein’s palaces to prevent them from <u>being hit</u> , Mastalir says.		العراقية أجهزة تشويش فوق بعض المعالم الأرضية، مثل قصور صدام حسين، من أجل حمايتها من القصف، كما يذكر ماستلير.		Translating the passive form into an active form	Verbal noun	Measure I - is also an adverbial structure 'من القصف'
Such signals have <u>been compared</u> with the amount of light <u>given off</u> by a 25-watt bulb, <u>as seen</u> from about 20,000 kilometers away.		إن قوة تلك الإشارات تقارن بمقدار الضوء الذي يُصدره مصباح قدرته 25 واط من مسافة 20 ألف كيلومتر		1st: Translating the passive form into a passive form	Passive verb	Measure IV - Imperfect passive
of light <u>given off</u> by a 25-watt bulb	by a 25-watt bulb	الذي يُصدره مصباح قدرته 25 واط من مسافة 20 ألف كيلومتر	'by-phrase' does not have an equivalent	2nd: Translating the passive form into an active form	Relative clause 'الذي' followed by a verb 'يُصدره'	Measure IV
<u>as seen</u> from about 20,000 kilometers away.		الذي يُصدره مصباح قدرته 25 واط من مسافة 20 ألف كيلومتر		3rd: Translating the passive form into an active form	Nominal clause	As seen' is Reduced passive / passive participle.

Rough statistics suggest that every star in the sky <u>is accompanied by</u> at least one such exoplanet and that perhaps one in five sunlike stars bears	by at least one such exoplanet	الإحصائيات التقريبية إلى أن كل نجم في السماء يتبعه على الأقل كوكب، وأنه ربما يحمل واحد	'by-phrase' does not have an equivalent	Translating the passive form into an active form	Active verb with active meaning	Measure VIII
a complex series of masks, mirrors and lenses. But this instrument was a late addition to WFIRST, which <u>is not optimized</u> for a coronagraph.		سلسلة معقدة من الأقنعة والمرابا والعدسات. لكن هذه الأداة كانت إضافة متأخرة للتلسكوب الذي لم يكن مجهزة لإضافة الكرونوجراف، ومن		Translating the passive form into a passive form	Verbal phrase consisting of كان followed by its complement a Passive participle 'مجهزاً'	Measure II
three instances of ultraviolet shadows soaring over the southern edge of Europa's dark bulk. If the shadows <u>were produced</u>		ثلاث حالات من الظلال فوق النفسجية التي ترتفع فوق الحافة الجنوبية للكثلة المظلمة للقمر أوروبا. فإذا كانت هذه الظلال ناتجة عن		Translating the passive form into an active form	Compound structure - verbal phrase 'كانت' followed by its complement an active participle 'ناتجة'	Measure I
Previous evidence of similar plumes <u>was reported</u> in 2014 in Science, but after follow-up observations, those water vapor spouts seemed to have stopped—or were not there in the first place.		وقد ذكرت أدلة سابقة على وجود أعمدة بخار ماء مماثلة في عام 2014 في دورية "ساينس" Science، ولكن بعد عدة عمليات رصد لاحقة للمتابعة، تبين أن فوهات بخار الماء تلك قد توقفت -أو أنها لم تكن موجودة من الأساس		Translating the passive form into a passive form	Passive verb	Measure I - Perfect passive - This is an active, and also grammatically incorrect. I think the correct form is: ذكرت .
that regard, "this [new observation] is exactly as likely as the last detections" to be real, says Britney Schmidt, who is a planetary scientist at the Georgia Institute of Technology and <u>was not involved</u> with the research.		وتعلق برييتني شميدت -عالمة الكواكب بمعهد جورجيا للتكنولوجيا، والتي لم تشارك في البحث- قائلة: إنه في هذا الصدد، فإن "عمليات الرصد الجديدة هذه على الأرجح تتساوى درجة مصداقيتها		Translating the passive form into an active form	Relative clause 'التي' followed by a verb 'تشارك'	Measure III
Space seems like a backdrop to the action of forces and fields that inhabit it but space itself <u>is not made of</u> anything—or is it?		يبدو الفضاء كخلفية لأفعال القوى والمجالات التي تسكنه، ولكن الفضاء في حد ذاته ليس مصنوعاً من شيء، أم أنه كذلك؟		Translating the passive form into a passive form	Verbal phrase consisting of كان followed by its complement a Passive participle 'مصنوعاً'	Measure I - 'ليس' is the negative of 'كان'
The idea suggests the universe <u>is built up</u> from some underlying code, and that by cracking this code, physicists will finally have a way to understand the quantum nature of large-scale events in the cosmos.		تشير الفكرة إلى أن الكون مبني من شفرة برمجية أساسية، وأنه بواسطة فك هذه الشفرة، سوف يصبح العلماء قادرين أخيراً		Translating the passive form into a passive form	Passive participle 'مبني'	Measure I

<p>The most recent It from Qubit (IfQ) meeting was held in July at the Perimeter Institute for Theoretical Physics in Ontario, where organizers were expecting about 90 registrants.</p>		<p>انعتقد آخر اجتماعات "إت فروم كيوبيت" (IfQ) في يوليو الماضي بمعهد بيرميتر للفيزياء</p>	-	<p>Translating the passive form into an active form</p>	<p>Active verb with active meaning</p>	<p>Measure VII - perfect active</p>
<p>"I think this is one of the most, if not the most, promising avenues of research toward pursuing quantum gravity," says Netta Engelhardt, a postdoctoral researcher at Princeton University who is not officially involved in It from Qubit but who has attended some of its meetings.</p>		<p>"أعتقد أن هذا واحد من أكثر السبل البحثية الواعدة، إن لم يكن أكثرها على الإطلاق، للسعي نحو الجاذبية الكمية"، كما تقول نيتا إنجلهاردت، باحثة ما بعد الدكتوراة بجامعة برينستون والتي لم تشارك رسميًا في مشروع "إت فروم كيوبيت"، ولكنها حضرت بعض اجتماعات المشروع.</p>		<p>Translating the passive form into an active form</p>	<p>Relative clause 'التي' followed by a verb 'تشارك'</p>	<p>Measure II</p>
<p>"It marries together two traditionally different fields: how information is stored in quantum things and how information is stored in space and time," says Vijay Balasubramanian,</p>		<p>"إنه يجمع مجالين مختلفين لا يجتمعان في العادة: كيفية تخزين المعلومات في أشياء كمية وكيفية تخزينها</p>		<p>1st: Translating the passive form into an active form</p>	<p>Verbal noun 'تخزين'</p>	<p>It is a noun phrase in which the passive phrase 'is stored' in English is translated by the verbal noun تخزين</p>
<p>and how information is stored in space and time," says Vijay Balasubramanian,</p>		<p>وكيفية تخزينها</p>		<p>2nd: Translating the passive form into an active form</p>	<p>Verbal noun 'تخزينها'</p>	<p>It is a noun phrase in which the passive phrase 'is stored' in English is translated by the verbal noun تخزينها</p>
<p>theory proves as successful as some anticipate, it could very well spark the next revolution in our understanding of space and time," says string theorist Brian Greene of Columbia University, who is not involved in IfQ. "That's a big deal and hugely exciting."</p>		<p>"إذا أثبتنا نجاح الصلة مع نظرية المعلومات الكمية بالصورة التي يتوقعها البعض، فقد يكون ذلك بداية شرارة جيدة للغاية للنورة القادمة في فهمنا للمكان والزمان"، كما يقول عالم نظرية الأوتار برايان جرين من جامعة كولومبيا، غير مشارك في مشروع IfQ.</p>		<p>Translating the passive form into an active form</p>	<p>Active participle with active meaning 'مشارك'</p>	<p>Measure III</p>
<p>The notion that spacetime has bits or is "made up" of anything is a departure from the traditional picture according to general relativity.</p>		<p>إن فكرة أن الزمكان لديه وحدات معلومات "بت"، أو أنه يتكون "من أي شيء، هي بمنزلة خروج</p>		<p>Translating the passive form into an active form</p>	<p>Medio-passive verb/participle 'يتكون'</p>	<p>Measure V</p>
<p>"Lately one absolutely fascinating proposal is that the fabric of spacetime is knitted together by the quantum entanglement of whatever the underlying 'atoms' of spacetime are,"</p>	<p>by the quantum entanglement</p>	<p>"في الأونة الأخيرة، برز اقتراح مذهل حفا بأن نسيج الزمكان ملتحم معًا بفضل التشابك الكمي للذرات الكامنة وراء</p>	ب	<p>Translating the passive form into an active form</p>	<p>Active participle with active meaning 'ملتحم'</p>	<p>Measure VIII</p>

<p>This discovery (<u>nicknamed</u> ER=EPR, after physicists' shorthand for wormholes and entanglement) and others like it suggest, surprisingly, that entanglement—which <u>was thought</u> to involve no physical link—can produce structures in spacetime.</p>	<p>هذا الاكتشاف (<u>المعروف</u> باسم ER=EPR، وفقاً لاختصار علماء الفيزياء لكلمتي الثقوب الدودية والتشابك)، وكذلك اكتشافات أخرى مثله، تشير بشكل مثير للدهشة إلى أن التشابك -والذي كان من المعتقد أنه لا يشتمل على رابطة فيزيائية- يمكنه إنتاج بني أو تراكيب في الزمكان.</p>		1st: Translating the passive form into an active form	Active participle with active meaning 'المعروف'	Measure I - 'nicknamed' is a passive participle (past participle)
<p>which <u>was thought</u> to involve no physical link—can produce structures in spacetime.</p>	<p>والذي كان من المعتقد أنه لا يشتمل على رابطة فيزيائية- يمكنه إنتاج بني أو تراكيب في الزمكان.</p>		2nd: Translating the passive form into a passive form	Verbal phrase consisting of كان followed by its complement a Passive participle 'المعتقد'	Measure VIII
<p>Yet physicists chasing this goal <u>have been stymied</u> for a century so far.</p>	<p>مع ذلك فإن محاولات علماء الفيزياء في السعي وراء هذا الهدف <u>انتهت</u> بالإحباط على مدى قرن من الزمان حتى الآن.</p>		Translating the passive form into an active form	Verbal noun 'بالإحباط'	is, of انتهت/ course, an active verb (also classifies it as medio-passive in sense). However, it does not directly translate anything in the ST – or perhaps it most plausibly said to can be translate 'has been' (i.e. 'this is where things have go to'). The verbal noun is the much more obvious translation equivalent of the English '[have . been] stymied
<p>In quantum computers, quantum error–correcting codes are a method scientists devised to help protect information from <u>being lost</u> if the entanglement between any particular bits <u>gets broken</u>.</p>	<p>تمثل رموز تصحيح الخطأ الكمي طريقة ابتكرها العلماء للمساعدة في حماية المعلومات من الضياع إذا ما كُسِر التشابك بين أي من الوحدات.</p>		1st: Translating the passive form into an active form	Verbal noun 'من الضياع'	
<p>if the entanglement between any particular bits <u>gets broken</u>.</p>	<p>إذا ما كُسِر التشابك بين أي من الوحدات.</p>		2nd: Translating the passive form into a passive form	Passive verb	Measure I - Perfect passive
<p>In computers that redundancy <u>is being used</u> to correct errors, but in AdS/CFT it may be able to encode the bulk physics into an entangled state on the boundary.</p>	<p>في الحواسيب، يُستخدم هذا التكرار لتصحيح الأخطاء، ولكن في</p>		Translating the passive form into a passive form	Passive verb	Measure X - Imperfect passive
<p>The correspondence itself only works in a “toy model” of the universe that <u>is somewhat simplified</u> from the fully realized cosmos we inhabit.</p>	<p>إن التناظر في حد ذاته يعمل فقط على "نموذج مبسط"، للكون، <u>يجري</u> تبسيطه بشكل ما من إدراكنا الكامل للكون الذي نعيش فيه.</p>		Translating the passive form into an active form	Compound structure - a verb 'يجري' followed by a verbal noun	Measure II - As in a number of other places, there is a verb meaning 'happen/take place (etc.)' here, i.e. يجري ,

					followed by a verbal noun تيسيط
Some skeptics have questioned how productive IfQ can ever be if it is based on an unrealistic foundation.	لقد تساءل بعض المتشككين عن مدى جدوى مشروع IfQ إذا كان <u>مبنياً</u> على أساس غير واقعي.	Translating the passive form into a passive form	Verbal phrase consisting of كان followed by its complement a Passive participle 'مبنياً'		
"I've long felt that the relation between quantum information and quantum gravity is of fundamental importance," says Raphael Bousso, a physicist at the University of California, Berkeley, who is not involved in IfQ but has worked with some of its collaborators.	"، كما يقول رافائيل بوسو، عالم الفيزياء بجامعة كاليفورنيا، بيركلي، غير مشارك في مشروع IfQ، وإنما عمل مع بعض المتعاونين معه	Translating the passive form into an active form	Active participle with active meaning 'مشارك'		
But to understand the dynamics [of quantum gravity] much more is required , and it is important for the field not to focus too narrowly on a single approach."	لكننا نحتاج إلى المزيد والمزيد لفهم ديناميكا [الجاذبية الكمية]، ومن المهم للمجال عدم التركيز على نهج واحد في نطاق ضيق".	Translating the passive form into an active form	Active verb with active meaning	Measure VIII - the Arabic 'we' was used to translate the English passive	
The project is reminding some physicists of the heady days in the past when other big ideas were just getting started .	يُذكر المشروع بعض علماء الفيزياء بالأيام العنيفة في الماضي، وقت <u>بداية</u> ظهور الأفكار الكبيرة الأخرى.	Translating the passive form into an active form	Verbal noun 'بداية'	Measure I - 'وقت' makes this structure adverbial	
The most scientifically capable weather satellite the United States has ever launched is slated to soar into orbit on November 19.	في 19 نوفمبر 2016، <u>أطلقت</u> الولايات المتحدة الأمريكية القمر الصناعي الأول من سلسلة "القمر الصناعي البيئي التشغيلي الثابت بالنسبة للأرض"، وهو أكثر أقمار	Translating the passive form into an active form	Active verb with active meaning	Measure IV	
As of this writing, Cassini is scheduled to end its travels around Saturn in mid-September by diving,	في وقت كتابة هذه السطور، <u>من المخطط</u> إنهاء رحلة المركبة الفضائية كاسيني حول كوكب زحل في منتصف شهر سبتمبر، وذلك بان	Translating the passive form into a passive form	Passive participle 'المخطط'	Measure II - 'By' is not involved in the passive structure here.	
For 13 years my life has been lived out there in the outer reaches of the solar system. And now that bountiful scientific expedition has come to an end.	وعلى مدار ثلاثة عشر عامًا، كانت حياتي <u>تتمحور</u> حول الحدود المترامية للنظام الشمسي، وهاهي الرحلة الاستكشافية العلمية الثرية تصل الآن إلى نهايتها.	Translating the passive form into an active form	Compound structure - verbal phrase 'كان' followed by its complement a medio Passive 'تتمحور'	Quadrilateral verb 'تتمحور'	

Both the hemisphere-scale color variations and the local piebald patches are caused by a runaway thermal process found only on the slowly rotating Iapetus.	by a runaway thermal process	إذ إن اختلافات الألوان بين النصفين والرقع المرقطه سببها عملية حرارية سريعة تحدث فقط على هذا القمر الذي يدور ببطء.	'by-phrase' does not have an equivalent	1st: Translating the passive form into an active form	Nominal clause سببها 'حرار عملية 'سريعة ية'	
found only on the slowly rotating Iapetus.		تحدث فقط على هذا القمر الذي يدور ببطء.		2nd: Translating the passive form into an active form	Active verb with active meaning	Measure I
It would be surprising to find chemical reactions similar to those we believe are required for water-based biochemistry operating at such temperatures.		وسيكون من المثير للدهشة العثور على تفاعلات كيميائية مشابهة لتلك التي نرى أنها مطلوبة لعمليات الكيمياء الحيوية القائمة على الماء التي تحدث في درجات حرارة مماثلة،		Translating the passive form into a passive form	Passive participle 'مطلوبة'	Measure I - 'مطلوبة' is a passive participle, and the element which most clearly translates the ST 'are required'.
inking we had of any activity on Enceladus came early in the mission, in January 2005, when we discovered a plume of icy particles coming off the south pole. Our images were immediately made available to the public,		جاءت الإشارات الأولى على وجود نشاط على سطح القمر إنسيلادوس في وقت مبكر من عمر هذه البعثة، في يناير 2005، عندما اكتشفنا تصاعد عمود من الجسيمات الجليدية ينبعث من القطب الجنوبي، وقد أتحت الصور على الفور للعامة،		Translating the passive form into a passive form	Passive verb	Measure IV - Perfect passive
we now know, is a moon being flexed and pulled by the gravitational tidal forces of Saturn.		أصبحنا نعرف الآن أن إنسيلادوس قمر يتعرض للشد و الجذب يفعل قوى جاذبية المد والجزر لكوكب زحل،		1st: Translating the passive form into an active form	Compound structure - a verb 'يتعرض' followed by a verbal noun	Measure I - the verb 'يتعرض' followed by elements شد and جذب here are verbal nouns
and pulled by the gravitational tidal forces of Saturn.	by the gravitational tidal forces	و الجذب يفعل قوى جاذبية المد والجزر لكوكب زحل،	يفعل	2nd: Translating the passive form into an active form	Compound structure - a verb 'يتعرض' followed by a verbal noun	Measure I
And some of us are so enthralled by this possibility that we are designing return missions to Enceladus to find out.	by this possibility	وقد افنتن بعضنا بهذا الاحتمال حتى إننا نعمل على تصميم بعثات تعود إلى القمر إنسيلادوس لاستكشاف هذا الأمر	ب	Translating the passive form into an active form	Medio-passive verb/participle 'افنتن'	Measure VIII - 'افنتن' is an active but semantically is a medio-passive.
They are also a model for the protostellar disks from which new solar systems are born and even for the billions of pinwheels of dust and gas we call spiral galaxies.		أنها تمثل نموذجًا لأقراص النجوم الأولية التي تولد من رحمها الأنظمة الشمسية الجديدة، بل وحتى لمليارات		Translating the passive form into a passive form	Passive verb	Measure I - Imperfect passive

<p>In others, where moons <u>are embedded</u> in the rings, gravity has nudged particles into beautiful structures. Pan, for instance, a roughly 30-kilometer-wide moon in the Encke ring gap, has done this to the particles in its vicinity;</p>		<p>كانت فيها الأقمار <u>مدمجة</u> في الحلقات، كانت الجاذبية تؤدي إلى تشكيل الجسيمات في بنى جميلة الشكل. فعلى سبيل المثال، هذا ما فعله القمر "بان"، الذي يبلغ عرضه (30 كيلومترًا تقريبًا) ويقع في فجوة "إنكي" الحلقيّة في الجسيمات المحيطة به،</p>		<p>Translating the passive form into a passive form</p>	<p>Passive participle 'مدمجة'</p>	<p>Measure IV</p>
<p>These formations might result from the extreme compression of material passing around small "moonlets" that have <u>been caught</u> in the resonance at the ring's edge like rushing water splashing against a large cliff face on the shore.</p>		<p>وربما تكون هذه المعالم قد تكونت نتيجة الضغط الهائل للمواد التي تمر حول الأقمار الصغيرة التي <u>وقعت</u> تحت تأثير الرنين المداري على حافة الحلقة، مثل المياه المتدفقة التي ترتطم بمنحدر ضخم على الشاطئ.</p>		<p>Translating the passive form into an active form</p>	<p>Relative clause 'التي' followed by a verb 'وقعت'</p>	<p>Measure I</p>
<p>Saturn's rings <u>are made of</u> countless icy particles, some as big as houses, and contain gaps due to the gravitational tug of moons.</p>		<p><u>تتكون</u> حلقات زحل من عدد لا حصر له من الجسيمات الجليدية،</p>	-	<p>Translating the passive form into an active form</p>	<p>Medio-passive verb/participle 'تتكون'</p>	<p>Measure V - 'تتكون' is an active verb – but might be analysed semantically as a medio-passive.</p>
<p>The atmosphere <u>is divided</u> into wide bands like Jupiter's, although Saturn's bands are less obvious from the outside because of a thick layer of haze lying above the upper ammonia cloud deck.</p>		<p>. <u>ينقسم</u> الغلاف الجوي للكوكب إلى نطاقات عريضة على غرار الغلاف الجوي لكوكب المشتري،</p>		<p>Translating the passive form into an active form</p>	<p>Medio-passive verb/participle 'ينقسم'</p>	<p>Measure VII - 'ينقسم' is an active verb – but might be analysed semantically as a medio-passive.</p>
<p><u>We were delighted</u> to find, however, that Saturn's atmosphere is not totally unresponsive to the changing seasons.</p>	-	<p>غير أننا <u>شعرنا بسعادة</u> غامرة عندما اكتشفنا أن الغلاف</p>		<p>Translating the passive form into an active form</p>	<p>Compound structure - a verb 'شعرنا' followed by a verbal noun</p>	
<p>One distinctive property of Saturn, which <u>has been known</u> for a century, is that on timescales of decades, it is prone to the eruption of colossal storms.</p>		<p>ومن أبرز الخصائص التي تميز كوكب زحل، <u>والتي نعر فيها</u> منذ قرن من الزمان،</p>		<p>Translating the passive form into an active form</p>	<p>Relative clause 'التي' followed by a verb 'نعر فيها'</p>	<p>Measure I - again, the Arabic 'we' was used to translate the English passive</p>
<p>So <u>we were thrilled</u> to greet one such storm in late 2010. Over a period of about 270 days, we</p>		<p>ومن ثم كان من <u>المثير للغاية</u> بالنسبة لنا أن نشهد إحدى العواصف في أواخر عام</p>		<p>Translating the passive form into an active form</p>	<p>Compound structure - verbal phrase 'كان' followed by its complement an active participle 'المثير'</p>	<p>Measure IV - 'من' is the predicate</p>
<p>The simple element <u>is considered</u> the backbone of life, and is also abundant in Earth's rocks, atmosphere and oceans.</p>	-	<p><u>ويعد</u> هذا العنصر البسيط أساس الحياة، كما أنه يوجد بوفرة في صخور كوكب الأرض وغلافه الجوي ومحيطاته.</p>		<p>Translating the passive form into a passive form</p>	<p>Passive verb</p>	<p>Measure I - Imperfect passive - geminate roots: yu-fafifi-u</p>

<p>“This study shows you have the first steps of PAHs, these first rings of benzene,” says Xander Tielens, an astrochemist at Leiden University in the Netherlands who <u>was not involved</u> in the research.</p>		<p>ويعلق الكساندر تييلنس، عالم الكيمياء الفلكية بجامعة لايدن بهولندا، والذي لم <u>يشارك</u> في هذا البحث، قائلاً: “توضح هذه الدراسة أن لدينا أولى خطوات تكوّن الهيدروكربونات العطرية متعددة الحلقات،</p>		<p>Translating the passive form into an active form</p>	<p>Relative clause 'الذي' followed by a verb 'يشارك'</p>	
<p>The findings <u>were published</u> today in Science <u>and presented</u> at a meeting of the American Astronomical Society in Washington, D.C.</p>		<p><u>نُشرت</u> هذه النتائج في دورية "ساينس" Science يوم 11 يناير 2018، <u>وقدمت</u> في اجتماع الجمعية</p>	-	<p>1st: Translating the passive form into a passive form</p>	<p>Passive verb</p>	<p>Measure I - Perfect passive</p>
<p>and <u>presented</u> at a meeting of the American Astronomical Society</p>		<p><u>وقدمت</u> في اجتماع الجمعية</p>		<p>2nd: Translating the passive form into a passive form</p>	<p>Passive verb</p>	<p>Measure II - Perfect passive</p>
<p>Georgia Southern University who was not part of the study. “We need carbon to make planets, to make life, to do interesting chemistry. We have this hypothesis about where the carbon <u>is tied up</u>, but we’ve had no way to confirm it.</p>		<p>ينبغي أن يتوافر الكربون لتكوين الكواكب ونشأة الحياة، وكذلك للتفاعلات الكيميائية المثيرة للاهتمام. لقد كانت لدينا هذه الفرضية حول أين <u>يقع</u> الكربون، ولكن لم تكن لدينا أية طريقة لإثباتها</p>		<p>Translating the passive form into an active form</p>	<p>Active verb with active meaning</p>	<p>Measure I</p>
<p>only occasionally <u>being cracked</u> open <u>by</u> extremely high-energy photons.</p>	<p>by extremely high-energy photons</p>	<p>ولا <u>تتعرض</u> للانكسار إلا من حين لآخر <u>بفعل</u> الفوتونات هائلة الطاقة. وقد</p>	<p>بفعل</p>	<p>Translating the passive form into an active form</p>	<p>Compound structure - a verb 'تتعرض' followed by a verbal noun 'الانكسار'</p>	<p>Measure I - Although both (verb and verbal noun) are active in form, they could both be described semantically as medio-passive.</p>
<p>Partial upper jaw bone from Misliya Cave in Israel dates to between 177,000 and 194,000 years ago and <u>is said</u> to belong to Homo sapiens.</p>		<p>جزء من عظمة فك علوي <u>عُثر</u> عليها في كهف ميسليا بإسرائيل يرجع إلى الفترة ما بين 177,000 إلى 194,000 سنة مضت، <u>ويقال</u> أنها تنتمي إلى جنس</p>		<p>Translating the passive form into a passive form</p>	<p>Passive verb</p>	<p>Measure I - Perfect passive</p>
<p>The jaw fragment suggests our species began traveling abroad 50,000 years earlier than previously <u>thought</u>.</p>		<p>الجزء المكتشف من عظمة الفك يوحي بأن جنسنا البشري بدأ في الترحال إلى الخارج مبكراً عما كان <u>يُعتقد</u> سابقاً بـ(50 ألف سنة</p>		<p>Translating the passive form into a passive form</p>	<p>Verbal phrase consisting of كان followed by its complement a passive verb</p>	<p>Measure VIII - Imperfect passive - يُعتقد is a medio-passive semantically, but it is clearly a passive morphologically.</p>
<p>But, so far as <u>is known</u>, it never reached Australia or the New World. Our own species, though, went everywhere.</p>		<p>ولكنه، وفق ما هو <u>معروف</u>، لم يصل قط إلى أستراليا أو العالم الجديد. أما جنسنا البشري فقد</p>		<p>Translating the passive form into a passive form</p>	<p>Passive participle 'معروف'</p>	<p>Measure I</p>
<p>But critics caution the identity of the fossil hinges on scant evidence, and that the implications of the find for understanding the rise of our species <u>are limited</u>.</p>		<p>وتطوره. إلا أن النقاد يحذرون من أن <u>مُطابقتة</u> الحفرية تقوم على أدلة ضعيفة، وأن الآثار المترتبة على الكشف -من ناحية فهم نشأة جنسنا- <u>محدودة</u>.</p>		<p>Translating the passive form into a passive form</p>	<p>Passive participle 'محدودة'</p>	<p>Measure I</p>

<p>“It’s exciting to find Homo sapiens outside of Africa this early,” says paleoanthropologist Shara Bailey of New York University, an expert on early human teeth, who was not involved in the new Misliya cave study.</p>		<p>تقول الباحثة في مجال علم دراسة مستحاثات أسلاف البشر، والخبيرة في دراسة أسنان الإنسان القديم، شارا بايلي، من جامعة نيويورك، التي لم تكن ضمن فريق</p>		<p>Translating the passive form into an active form</p>	<p>Nominal clause</p>	<p>ضمن فريق is neither an active nor a passive—since there is no verb (or participle) involved.</p>
<p>If the species originated in sub-Saharan Africa around 200,000 years ago as was thought, the bone-dry Sahara Desert could have been a formidable barrier to migration out of the motherland.</p>		<p>فإذا كان الجنس العاقل قد نشأ في أفريقيا جنوب الصحراء الكبرى قبل حوالي 200,000 سنة كما كان يُعتقد، فربما كانت الصحراء الكبرى شديدة الجفاف حاجزاً منيعاً أمام الهجرة من موطن المنشأ.</p>		<p>Translating the passive form into a passive form</p>	<p>Passive verb</p>	<p>Measure VIII - Imperfect passive - يُعتقد is a medio-passive semantically, but it is clearly a passive morphologically.</p>
<p>and the oldest known H. sapiens outside of Africa, at Misliya, could be taken to indicate Levallois tools were invented by modern humans,</p>		<p>وأقدم أفراد الإنسان العاقل خارج أفريقيا، في ميسليا، يمكن أن يُؤخذ على أنه إشارة إلى أن أدوات لوفالوا اخترعت على يد الإنسان الحديث، وأنها ربما سهلت انتشار الإنسان العاقل خارج أفريقيا.</p>		<p>1st: Translating the passive form into a passive form</p>	<p>Passive verb</p>	<p>Measure I - Imperfect passive</p>
<p>Levallois tools were invented by modern humans,</p>	<p>by modern humans</p>	<p>أدوات لوفالوا اخترعت على يد الإنسان الحديث، وأنها ربما سهلت انتشار الإنسان العاقل خارج أفريقيا.</p>	<p>على يد</p>	<p>2nd: Translating the passive form into a passive form</p>	<p>Passive verb</p>	<p>Measure VIII - Perfect passive</p>
<p>and that they may have facilitated the spread of H. sapiens out of Africa. But not everyone buys that argument. Archaeologist John Shea of Stony Brook University, who was not involved in the new work,</p>		<p>وأنها ربما سهلت انتشار الإنسان العاقل خارج أفريقيا. لكن لم يقتنع الجميع بتلك الحجة. يشير عالم الآثار جون شيا من جامعة ستوني بروك، الذي لم يكن ضمن العاملين على الدراسة الجديدة</p>		<p>Translating the passive form into an active form</p>	<p>Nominal clause</p>	
<p>notes Levallois-like stone tools have been found at sites in Africa dating to 500,000 years ago, and sites in Armenia dating to more than 300,000 years ago—long before H. sapiens is known to have appeared on the scene.</p>		<p>إلى أن أدوات شبيهة بأدوات لوفالوا الحجرية عُثِر عليها في مواقع في أفريقيا تعود إلى 500,000 سنة مضت، ومواقع في أرمينيا تعود إلى أكثر من 300,000 سنة، وذلك قبل التاريخ المُدرج لظهور الإنسان العاقل على الساحة بمدة طويلة</p>		<p>1st: Translating the passive form into a passive form</p>	<p>Passive verb</p>	<p>Measure I - Perfect passive</p>
<p>long before H. sapiens is known to have appeared on the scene.</p>		<p>وذلك قبل التاريخ المُدرج لظهور الإنسان العاقل على الساحة بمدة طويلة</p>		<p>2nd: Translating the passive form into an active form</p>	<p>Active participle with active meaning 'المُدرج'</p>	<p>Measure IV - a different word with a similar meaning was used to translate the English passive</p>

References

- Aarts, B. (2011). *New Oxford English Grammar*. Oxford: Oxford University Press.
- Ababneh, Y. and Al Rousan, R. (2020). The Influence of Translation on the Arabic Sentence Structure: Electronic Journalism as a Model. *Sino-US English Teaching*, 17(1).
- Abbasi, A. and Arjenan, F. (2014). Translation of English Passive and Unaccusative Verbs into Farsi: A Comparative Study of Three Translations of “Animal Farm” by Three Iranian Translators. *Procedia – Social and Behavioral Sciences*, 98, pp.9–15.
- Abderrahman, W. (1995). A Linguistic Study of the Impact of English on Arabic Word Formation. *Islamic Studies*, 34(2), pp.223–231.
- Abdul-Rauf, S. and Schwenk, H. (2009). Exploiting Comparable Corpora with TER and TERp. In: *Proceedings of the 2nd Workshop on Building and Using Comparable Corpora, ACL-IJCNLP*. pp.341–375.
- Abdul-Rauf, S. and Schwenk, H. (2011). Parallel Sentence Generation from Comparable Corpora for Improved SMT. *Mach Translat*, 25(4), pp.341–375.
- Abdulkadir, S. and Ahmed, A. (2013). Passivisation and Theta (Θ) Role in Arabic and Fulfulde. *Language in India*, [online] 13(13/5). Available at: <http://www.languageinindia.com/may2013/passivisationfulfuldeArabic.pdf> (Accessed: 24 February 2018).
- Aboelezz, M. (2015). A History of the Arabic Language and the Origin of Non-Dominant Varieties of Arabic. In: *Pluricentric Languages and Non-Dominant Varieties Worldwide*.
- Abu Absi, S. (1972). *Passive Reflexive Verbs in Lebanese*. Ann Arbor, Mich.: Bloomington.
- Abu-Chacra, F. (2007). *Arabic: An Essential Grammar*. London: Routledge.
- Adejare, R. (2015). The Syntactic Relationship Between Transitivity and Voice. *International Journal of Language and Linguistics*, 3(2), p.40.
- Agameya, A. (2008). Passive (Syntax). In: *Encyclopaedia of Arabic Language and Linguistics*. Leiden-Boston: Brill.

- Ahmed, S. (2015). Attitudes towards English Language Learning among EFL Learners at UMSKAL. *Journal of Education and Practice*, 6(16).
- Ahmed, Z. (2008). *Essentials of Arabic grammar for learning Quranic language*. Islamabad: Darussalam Publishers and Distributors.
- Aker, A. et al. (2013). Extracting Bilingual Terminologies from Comparable Corpora. In: *Proceedings of the 51st Annual Meeting of the Association for Computational Linguistics*. Association for Computational Linguistics.
- Al Dakrori, A. (2018). *Linguistic Corpora and Their Role in Processing Arabic Texts*. (المدونات العربية النصّوص معالجة في اللغوية ودورها). Saudi Arabia: King Abdullah Bin Abdulaziz Int'l Centre for the Arabic Language.
- Al Sayadi, M. (2016). Traces of English in Arabic Dialects. *Lingwistyka Stosowana*, 2/2016(17), pp.123–137.
- Al-ajmi, H. (2011). A New English? Arabic Parallel Text Corpus for Lexicographic Applications. *Lexikos*, 14, pp.326–330. Available at: https://www.researchgate.net/publication/307748023_A_New_EnglishArabic_Parallel_Text_Corpus_for_Lexicographic_Applications (Accessed: 25 February 2022).
- Al-Ali, M. and Alliheibi, F. (2015). Struggling to Retain the Functions of Passive when Translating English Thesis Abstracts. *Pragmatics. Quarterly Publication of the International Pragmatics Association (IPrA)*, 25(2), pp.129–148.
- Al-Dabbagh, A. (2005). Globalism and the Universal Language. *English Today*, 21(2), pp.3–12.
- Al-Hamash, K. (1976). *A Practical Course in English Phonetics*. Baghdad: IDELTI Publication.
- Al-Jallad, A. (2020). Pre-Islamic Arabic. In: *Arabic and Contact-Induced Change*. Berlin: Language Science Press.
- Al-Khawaldeh, A. et al. (2014). A Corpus-Based Description of Discourse Markers in Arabic Sport Journalistic Texts. *Journal of Islamic and Human Advanced Research*, 4(4).

- Al-Natheema, W. (2012). *The History of Arabs Bridging Cultures with Knowledge of the Past*. [online] Available at: http://www.culturaldiplomacy.org/academy/content/pdf/participant-papers/2012-11-cbg/The_History_of_Arabs_-_%C2%A0_Bridging_Cultures_with_Knowledge_of_the_Past-Wafaa_Al-Natheema.pdf (Accessed: 24 February 2022).
- Al-Raba'a, B. (2013). The Grammatical Influence of English on Arabic in the Passive Voice in Translation. *International Journal of Linguistics*, 5(1).
- Al-Thubaity, A. (2014). A 700M+ Arabic corpus: KACST Arabic corpus design and construction. *Language Resources and Evaluation*, 49(3), pp.721–751.
- Alexiadou, A. (2013). Where is Non-Active Morphology? In: *Proceedings of the 20th International Conference on Head-Driven Phrase Structure Grammar*. Stanford: CSLI Publications.
- Alfraidi, T. (2017). *Conditional Sentences in Modern Written Arabic*. University of Exeter: PhD thesis.
- Algahtani, S. (2011). *Arabic Named Entity Recognition: A Corpus-Based Study*. The University of Manchester: PhD thesis.
- Algeo, J. (2005). *The Origins and Development of the English Language*. Boston: Michael Rosenberg.
- Alhussain, A. (2016). A Syntactic Study of The Passive Voice in Modern Standard Arabic (MSA). *International Journal of English Language and Linguistics Research*, 4(3).
- Alkahtani, S. et al. (2015). *A New Hybrid Metric for Verifying Parallel Corpora of Arabic-English*. [online] Available at: <https://arxiv.org/pdf/1502.03752v1.pdf> (Accessed: 15 February 2022).
- Allan, S. (2009). *Passive be Damned: The Construction that Wouldn't be Beaten*. University of Canterbury: MA.
- Alonso, J. et al. (2014). *The Future of Spanish in the United States: The Language of Hispanic Migrant Communities*. Madrid: Fundación Telefónica.

Alsuhaibani, S. (2012). *The Verbal Sentences in Written Arabic*. [online] Available at: <https://ore.exeter.ac.uk/repository/bitstream/handle/10036/3727/AlsuhaibaniS.pdf?sequence=2&disAllowed=y> (Accessed: 20 December 2016).

Alvin, L. (2014). The Passive Voice in Scientific Writing. The Current Norm in Science Journals. *Journal of Science Communication*, 13(01).

Anderman, G. and Rogers, M. (2008). *Incorporating Corpora: The Linguist and the Translator*. Bristol: Multilingual Matters.

Asfoor, M. (2007). The Effects of Translation on the Arabic language. *Al Shariqa University publication for religious and humanitarian science*, 4(3).

Azar, B. (2002). *Understanding and Using English Grammar. 3rd Edition*. New York: Longman.

Aziz, Y. (1967). *The Influence of English Grammar, Syntax, Idiom and Style upon Contemporary Literary Arabic*. [online] Available at: <https://research-repository.st-andrews.ac.uk/bitstream/handle/10023/2677/YowellYosefAzizPhDThesis.pdf?sequence=3&disAllowed=y> (Accessed: 20 December 2017).

Baker, M. (1992). *In Other Words: A Coursebook on Translation*. London: Routledge.

Baker, M. (1993). Corpora in Translation Studies: An Overview and Some Suggestions for Future Research. In: *Text and Technology: In Honour of John Sinclair*. Amsterdam: John Benjamins Publishing Company.

Baker, M. (1995). Corpora in Translation Studies: An Overview and Some Suggestions for Future Research. *Target International Journal of Translation Studies*, 7(2), pp.223–243.

Baker, M. (1998). *Routledge Encyclopaedia of Translation Studies*. London and New York: Routledge.

Baker, P. (2009). *Contemporary corpus linguistics*. London and New York: Continuum.

Bakir, M. (1994). Notes on Passive and Pseudo-Intransitive Constructions in English and Arabic. *Papers and Studies in Contrastive Linguistics*, 31, pp.39-49.

Baltin, M. and Collins, C. (2000). *The Handbook of Contemporary Syntactic Theory*. Massachusetts: Blackwell.

Banks, D. (2017). The Extent to Which the Passive Voice is Used in the Scientific Journal Article, 1985–2015. *Functional Linguistics*, [online] 4(1). Available at: <https://link.springer.com/content/pdf/10.1186%2Fs40554-017-0045-5.pdf> (Accessed: 21 November 2019).

Beeby, A. et al. (2009). *Corpus Use and Translating*. Amsterdam and Philadelphia: John Benjamins Pub.

Beedham, C. (1982). *The Passive Aspect in English, German, and Russian*. Tübingen: Narr.

Beekman, J. and Callow, J. (1974). *Translating the Word of God, with Scripture and Topical Indexes*. Michigan: Zondervan.

Bennett, K. (2013). English as a Lingua Franca in Academia. *The Interpreter and Translator Trainer*, 7(2), pp.169–193.

Berghammer, G. (2008). English as the Lingua Franca of Science: A Translators View on What's Lost—and What's Gained—in Translation. *The Write Stuff*, 17(4), pp.213–219.

Bernacka, A. (2012). The Importance of Translation Studies for Development Education. Policy and Practice—A Development Education Review. *Policy and Practice: A Development Education Review*, 14, pp.113-118.

Bhatt, R. and Finch, S. (2001). *Introduction to Syntax*. [online] Available at: <http://people.umass.edu/bhatt/lin380l/380l-f01-113-15.pdf> (Accessed: 7 February 2017).

Biber, D. (2003). Representativeness in Corpus Design. *Literary and Linguistic Computing*, 8(4), pp.243–257.

Biber, D. et al. (2002). *Longman Student Grammar of Spoken and Written English*. England: Pearson Education Limited.

Biber, D. et al. (1998). *Corpus Linguistics: Investigating Language Structure and Use*. Cambridge: Cambridge University Press.

Biel, L. (2010). Corpus-Based Studies of Legal Language for Translation Purposes: Methodological and Practical Potential. In: *Reconceptualizing LSP*. Online proceedings of the XVII European LSP Symposium 2009.

Bielenia-Grajewska, M. (2009). Linguistic Borrowing in the English Language of Economics. *Lexis*, 3, pp.107-135.

Bilal, H. (2012). Analysis of Thank You M'am: Halliday's Metafunctions. *Academic Research International*, 2(1).

Bisiada, M. (2011). Syntactic Change Through Translation: A Corpus-Based Approach to Language Change. In: *Corpus Research Seminar*. University of Manchester.

Bisiada, M. (2016). Structural Effects of English–German Language Contact in Translation on Concessive Constructions in Business Articles. *Text and Talk*, 36(2).

Bisiada, M. (2018). Translated Language or Edited Language? A Study of Passive Constructions in Translation Manuscripts and their Published Versions. *Across Languages and Cultures*, 20(1), pp.35–56.

Blount, H. and Johnson, R. (1973). Grammatical Structure and the Recall of Sentences in Prose. *American Educational Research Journal*, 10(2), pp.163-168.

Božović, P. (2014). Translation and Language Change. *Mediterranean Journal of Social Sciences*, 5(13).

Campano, A. (2016). *The Influence of French on Society and Language in the Middle English Period*. [online] Available at: http://e-spacio.uned.es/fez/eserv/bibliuned:grado-Filologia-EI-Almarcos/Marcos_Campano_AnaLuisa_TFG.pdf (Accessed: 20 December 2017).

Cantarino, V (1975). *Syntax of Modern Arabic Prose*. Bloomington: Indian University Press.

Catford, J. et al. (1974). *A Contrastive Study of English and Arabic*. [online] California: The Defense Language Institute. Available at: <https://files.eric.ed.gov/fulltext/ED105761.pdf> (Accessed: 1 March 2019).

Chan, C. et al. (2004). *The UK Chinese People: Diversity and Unmet Needs*. Nottingham: Division of Social Work, Social Policy & Human Services, Nottingham Trent University.

- Chomsky, N. (1954). *Syntactic Structures*. Berlin and New York: Mouton De Gruyter.
- Coleman, E. (1965). Learning of Prose Written in Four Grammatical Transformations. *Journal of Applied Psychology*, 49(5), pp.332–341.
- Coon, J. and Adar, M. (2013). Ergativity. In: M. Aronoff, ed., *Oxford Bibliographies in Linguistics*. New York: Oxford University Press.
- Cowan, D. (1964). *An Introduction to Modern Literary Arabic*. Cambridge: Cambridge University Press.
- Crawley, H. (2009). *The Situation among Children in Immigrant Families in the United Kingdom*. Florence: UNICEF Innocenti Research Centre.
- Crystal, D. (1980). *A First Dictionary of Linguistics and Phonetics*. London: A. Deutsch.
- Crystal, D. (1997). *English as a Global Language*. 2nd ed. Cambridge and New York: Cambridge University Press.
- Darwish, H. (2015). Arabic Loan Words in English Language. *IOSR Journal of Humanities and Social Science*, [online] 20(7). Available at: <http://iosrjournals.org/iosr-jhss/papers/Vol20-issue7/Version-7/L02077105109.pdf> (Accessed: 9 May 2019).
- Demata, M. (2015). *English Interferences in Italian Journalism: The Use of Anglicisms in Il Fatto Quotidiano*. [online] Available at: <https://iris.unito.it/handle/2318/1656268#.XKdtBetKjOQ> (Accessed: 16 May 2019).
- Di Pietro, R. (1971). Contrastive Analysis and Linguistic Creativity. *Working papers in Linguistics*, [online] 3(4). Available at: <http://files.eric.ed.gov/fulltext/ED086021.pdf> (Accessed: 19 July 2018).
- Dickins, J. (2010). Junction in English and Arabic: Syntactic, Discoursal and Denotative Features. *Journal of Pragmatics*, 42(4), pp.1076–1136.
- Dickins, J. (2017). The Pervasiveness of Coordination in Arabic, with Reference to Arabic>English Translation. *Languages in Contrast*, 17(2), pp.229–254.
- Dickins, J. (2020). *Thematic Structure and Para-Syntax: Arabic as a Case Study*. London and New York: Routledge.

- Dickins, J. and Watson, J. (1999). *Standard Arabic: An Advanced Course*. Cambridge: Cambridge University Press.
- Dickins, J., Hervey, S.G.J. and Higgins, I. (2016). *Thinking Arabic Translation: A Course in Translation Method: Arabic to English, 2nd Edition*. London and New York: Routledge.
- Dingwaney, A. and Maier, C. (1996). Between languages and cultures: translation and cross-cultural texts. *Choice Reviews Online*, 34(02).
- Eastwood, J. (1994). *Oxford Guide to English Grammar*. Oxford: Oxford University Press.
- Edwards, V. and Ran, A. (2009). Meeting the Needs of Chinese Students in British Higher Education. In: T. Coverdale-Jones and P. Rastall, eds., *Internationalising the University*. London: Palgrave Macmillan.
- El-Yasin, M. (1996). The Passive Voice: A Problem for the English-Arabic Translator. *Babel. Revue internationale de la traduction / International Journal of Translation*, 42(1), pp.18–26.
- Farghal, M. and Al-Shorafat, M. (1996). The Translation of English Passives into Arabic: An Empirical Perspective. *Target International Journal of Translation Studies*, 8(1), pp.97–118.
- Fiedler, S. (2011). English as a Lingua Franca: A Native-Culture-Free Code? Language of Communication Vs. Language of Identification. *Apples – Journal of Applied Language Studies*, 5(3), pp.79–97.
- Fillmore, C. (1968). The Case for Case. In: *Universals in Linguistic Theory*. New York: Rinehart and Winston.
- Gao, L. (2006). Language Contact and Convergence in Computer-Mediated Communication. *World Englishes*, 25(2), pp.299–308.
- García, M. and Yapici, M. (2014). Common Vocabulary in Urdu and Turkish Language: A Case of Historical Onomasiology. *Pakistan Vision*, 15(1).
- Gellerstam, M. (2005). Fingerprints in Translation. In: *In and Out of English: For Better, for Worse?* Clevedon: Multilingual Matters.
- Ghasemi, H. and Jahromi, M. (2014). The Differences Between Spoken and Written Discourses in English. *International Journal of Language Learning and Applied Linguistics World*,

[online] 6(4). Available at: <http://www.ijllalw.org/finalversion6411.pdf> (Accessed: 15 May 2017).

Griera, R. (2014). *The Translation of the English Passive Construction into Catalan*. Universidad de Barcelona: MA.

Grigaliūnienė, J. (2013). *Corpora in language studies*. Lithuania: Vilnius University.

Guo-rong, S. (2010). Corpus-based Approaches to Translation Studies. *Cross-Cultural Communication*, 6(4).

Hajjem, M. et al. (2013). Building Comparable Corpora from Social Networks. In: 7th *Global WordNet Conference*.

Halliday, M. (1970). Language Structure and Language Function. In: *New Horizons in Linguistics*. Harmondsworth: Penguin Books.

Hanania, E. and Gradman, H. (1977). Acquisition of English Structures: A Case Study of an Adult Native Speaker of Arabic in an English-Speaking Environment. *Language Learning*, 27(1), pp.75–91.

Hartmann, R. and Stork, C. (1976). *Dictionary of Language and Linguistics*. New Jersey: John Wiley and Sons.

Haspelmath, M. (1990). The Grammaticalization of Passive Morphology. *Studies in Language*, 14(1), pp.25–72.

Haywood, J. and Nahmad, H. (1965). *A New Arabic Grammar of the Written Language*. London: Lund Humphries.

Hickey, R. (2010). Language Change. In: *Handbook of Pragmatics: 2010 Installment*. Amsterdam: John Benjamins Publishing.

Hoffer, B. (2002). Language Borrowing and Language Diffusion: An Overview. *Intercultural Communication Studies*, 11(4).

Holes, C. (2004). *Modern Arabic: Structures, Functions, and Varieties*. Washington, D.C.: Georgetown University Press.

- Horvath, J. and Siloni, T. (2005). Active Lexicon: Adjectival Passives. In: *Glow* 28. The Semitic Workshop.
- House, J. (2006). Covert translation, Language Contact, Variation and Change. *SYNAPS*, [online] 25(47). Available at: http://www.translationdirectory.com/pdf/house_model.pdf (Accessed: 16 May 2019).
- Hsu, J. (1994). Englishization and Language Change in Modern Chinese in Taiwan. *World Englishes*, 13(2), pp.167–184.
- Huddleston, R. and Pullum, G. (2002). *The Cambridge Grammar of the English Language*. Cambridge and New York: Cambridge University Press.
- Inzunza, E. (2020). Reconsidering the Use of the Passive Voice in Scientific Writing. *The American Biology Teacher*, 82(8), pp.563–565.
- Isakson, C. and Spyridakis, J. (2003). The Influence of Semantics and Syntax on What Readers Remember. *Technical Communication*, 50(4).
- Ishizuka, T. (2010). *Toward a Unified Analysis of Passives in Japanese: A Cartographic Minimalist Approach*. University of California: PhD thesis.
- Islam, R. (2011). *The Morphology of Loanwords in Urdu: the Persian, Arabic and English Strands*. [online] Available at: <https://theses.ncl.ac.uk/dspace/bitstream/10443/1407/1/Islam,%20R.A.%2012.pdf> (Accessed: 11 May 2018).
- Jamel, K. and Khaled, M. (2015). *Translating the Passive Voice: “Rendering the Stylistic Features”*. University Kasdi Merbah Ouargla.
- Johnson, A. (2009). The Rise of English: The Language of Globalization in China and the European Union. *Macalester International*, 22(12).
- Johnsson, S. and Oksefjell, S. (1998). *Corpora and Cross-Linguistic Research: Theory, Method, and Case Studies*. Amsterdam and Atlanta: Rodopi.
- Jones, C. and Waller, D. (2015). *Corpus Linguistics for Grammar: A Guide for Research*. London and New York: Routledge.

- Kachru, B. (1994). Englishisation and Contact Linguistics. *World Englishes*, 13(2).
- Karima, A. and Smaïli, K. (2016). Measuring the Comparability of Multilingual Corpora Extracted from Twitter and Others. In: *Springer series: The Tenth International Conference on Natural Language Processing*.
- Kay, G. (1995). English Loanwords in Japanese. *World Englishes*, [online] 14(1), pp.67–76. Available at: http://www.csun.edu/~Bashforth/301_PDF/301_P_P/EnglishLoanWordsJapanese.pdf (Accessed: 16 May 2019).
- Keenan, E. (1985). Passive in the World's Languages. In: *Language Typology and Syntactic Description*. Cambridge: Cambridge University Press.
- Kerl, S. (1861). *A Comprehensive Grammar of the English Language*. California: Phinney, Blakeman, and Mason.
- Khafaji, R. (1996). Arabic Translation Alternatives for the Passive in English. *Papers and Studies in Contrastive Linguistics*, 31(0).
- Khalil, A. (1993). Arabic Translation of English Passive Sentences: Problems and Acceptability Judgements. *Papers and Studies in Contrastive Linguistics*, 27(0).
- Khansir, A. and Mozafari, N. (2014). The Impact of Persian Language on Indian Languages. *Theory and Practice in Language Studies*, [online] 4(11). Available at: <http://www.academypublication.com/issues/past/tpls/vol04/11/20.pdf> (Accessed: 16 May 2019).
- Khrisat, A. and Mohamad, M. (2014). Language's Borrowings: The Role of the Borrowed and Arabized Words in Enriching Arabic Language. *American Journal of Humanities and Social Sciences*, 2(2).
- Kruger, A. (2002). Corpus-based Translation Research: Its Development and Implications for General, Literary and Bible Translation. *Acta Theologica Supplementum*, 22(1), pp.70–106.
- Kubler, C. (1985). *The Development of Mandarin in Taiwan: A Case Study of Language Contact*. Taipei, Taiwan, Republic of China: Student Book Co.

- Laks, L. (2013). Passive Formation in Palestinian and Standard Arabic: Lexical vs. Syntactic Operations. *Word Structure*, 6(2), pp.156–180.
- Laviosa, S. (2006). *Corpus-based Translation Studies: Theory, Findings, Applications*. Amsterdam and New York: Rodopi.
- Lewis, M. (1986). *The English Verb: An Exploration of Structure and Meaning*. London: Language Teaching Publication.
- Lipiński, E. (2012). Arabic Linguistics: A Historiographic Overview. *ROCZNIKORIENT ALISTYCZNY*, T. LXV, Z, 2(0).
- Lyons, J. (1968). *Introduction to Theoretical Linguistics*. Cambridge: Cambridge University Press.
- Maalouf, A. (2009). *Ekhtilal Alallam* (اختلال العالم). Beirut: Dar Alfarrabi.
- Malamatidou, S. (2013). Passive Voice and the Language of Translation: A Comparable Corpus-Based Study of Modern Greek Popular Science Articles. *Translators' Journal*, 58(2), pp.411–429.
- Malmkjaer, K. (1998). Love thy Neighbour: Will Parallel Corpora Endear Linguists to Translators? *Meta: Translators' Journal*, [online] 43(4). Available at: <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.465.2392&rep=rep1&type=pdf> (Accessed: 16 July 2019).
- Matthews, J. et al. (2000). *Successful Scientific Writing: A Step-By-Step Guide for the Biological and Medical Sciences*. Cambridge and New York: Cambridge University Press.
- Mattia-Viviès, M. (2009). The Passive and the Notion of Transitivity. *Review of European Studies*, 1(2).
- Mauranen, A. and Ranta, E. (2009). *English as a Lingua Franca: Studies and Findings*. Cambridge: Cambridge Scholars Publishing.
- Mcenery, T. et al. (2006). *Corpus-based Language Studies: An Advanced Resource Book*. London: Routledge.

McLaughlin, M. (2011a). Tradurre/Tradire: Translation as a Cause of Linguistic Change from Manuscripts to the Digital Age. *New Faculty Lecture Series*, [online] 27. Available at: <http://escholarship.org/uc/item/4rc5w95r> (Accessed: 24 February 2022).

McLaughlin, M. (2011b). *Syntactic Borrowing in Contemporary French: A Linguistic Analysis of News Translation*. Oxford: Legenda.

McLaughlin, M. (2013). News Translation as a Source of Syntactic Borrowing in Italian. *The Italianist*, 33(3), pp.443–463.

Megec, K. (2015). *The Influence of English on Italian Examined Through Linguistic Borrowing*. [online] Available at: <https://repository.ffri.uniri.hr/islandora/object/ffri%3A389/datastream/PDF/view> (Accessed: 24 February 2019).

Mohammad, A. (2006). The Passive Verb in the Arabic Language: Importance, Definition, Purpose (أغراضه -مصطلحاته -أهميته -الفعل المبني للمجهول في اللغة العربية). *Damascus University journal*, 22(1).

Mohammadian, A. et al. (2017). The Effect of Translation on the Grammatical Structure of Persian Language: Cases of French and English Affixes Translation into Persian Study. *European Journal of English Language and Literature Studies*, 5(2), pp.22–35.

Monnier, R. (2015). Challenges in Translation of the French Revolution. The Transmission of English Republican texts. *Historical Review-La Revue Historique*, 12.

Mouakket, A. (1986). *Linguistics and Translation: Some Semantic Problems in Arabic-English Translation*. Washington D.C: Georgetown University.

Moya, S. (2008). *The History of Arabic Loanwords in Turkish*. [online] Available at: https://www.swarthmore.edu/sites/default/files/assets/documents/linguistics/2009_smoya.pdf (Accessed: 24 February 2022).

Musacchio, M. (2003). *The Distribution of Information in LSP Translation. A Corpus Study of Italian*. [online] Available at: https://www.openstarts.units.it/dspace/bitstream/10077/2883/1/ritt8_08musacchio.pdf (Accessed: 24 February 2022).

- Naseeb, A. (2011). *Translating Passive Verbs in English–Arabic Parallel Texts and their Frequency in Arabic–Arabic Comparable Texts*.
- Neshcheret, N. (2016). *Passive Construction with Intransitive Verbs: Typology and Distribution*. University of Kiel: PhD thesis.
- Nida, E. (1964). *Toward a Science of Translating*. Leiden: Brill.
- Nida, E. and Taber, C. (1982). *The Theory and Practice of Translation*. Leiden: E.J. Brill.
- NMELRC. and AATT (2011). *A Handbook for Students of Turkish*. [online] Available at: <http://www.princeton.edu/~turkish/aatt/pdf/Turkishhandbook.pdf> (Accessed: 22 February 2017).
- Nofal, K. (2011). Passive Constructions in the Holy Qur'an. *International Journal of Social Sciences and Education*, 1(4), pp.699–720.
- Nofal, K. (2012). *The Use of Passive Voice in the Language of Journalism*. Chisinau: Lambert Academic Publishing.
- Nofal, K. (2013). Semantic Functions of Passive Constructions in the Holy Qur'an. *Theory and Practice in Language Studies*, 3(6), pp.894–902.
- Oakes, M. and McEnery, T. (2000). Bilingual Text Alignment – An Overview. In: *Multilingual Corpora in Teaching and Research*. Amsterdam: Rodopi.
- Ogawa, N. (1967). *On the Japanese Passive Form*. University of Tokyo: MA.
- Olohan, M. (2004). *Introducing Corpora in Translation Studies*. London: Routledge.
- Othman, A. et al. (2014). *Arabic in World Languages*. Saudi Arabia: King Abdulaziz International centre.
- Palmer, F. (1965). *The English Verb*. London: Longman.
- Perry, J. (2002). Arabic Elements in Persian. *English Literary Renaissance*, 2, pp.229-236.
- Plecháčková, J. (2007). *Passive Voice in Translation: A Corpus-Based Study*. Masaryk University: MA.

Prasad, P. (2013). Impact of Arabic and Persian Language on the Kannada Language. *Language in India*, [online] 13(7). Available at: <http://www.languageinindia.com/july2013/prasadArabicpersiankannada.pdf> (Accessed: 24 February 2022).

Qassim, A. (n.d.). *Translation, Grammatically, Viewed*. [online] <http://www.uobaghdad.edu.iq/uploads/pdfs/book.pdf>. University of Bagdad. Available at: <http://www.uobaghdad.edu.iq/uploads/pdfs/book.pdf> (Accessed: 24 February 2022).

Quirk, R. et al. (1972). *A Grammar of Contemporary English*. Essex: Longman.

Quirk, R. et al. (1973). *A Grammar of Contemporary English*. Essex: Longman.

Ramsay, A. and Mansour, H. (2006). Local Constraints on Arabic Word Order. In: *Conference: Advances in Natural Language Processing*. [online] Advances in Natural Language Processing. Available at: https://www.researchgate.net/publication/221314727_Local_Constraints_on_Arabic_Word_Order (Accessed: 24 February 2022).

Reddawi, R. and Meslam, D. (2015). Loss of Arabic in the UAE: Is Bilingual Education the Solution? *International Journal of Bilingual and Multilingual Teachers of English*, 03(02), pp.85–94.

Rhazi, A. et al. (2017). Translating Passive Structures from Arabic into English Using the NooJ Platform. *International Journal of Information Technology and Language Studies (IJITLS)*, 1(2), pp.1–7.

Rhodes, S. (1997). *Active and Passive Voice are Equally Comprehensible in Scientific Writing*. University of Washington: MA.

Rita, A. (2012). Latin Influence on English Language. *Nyelvtudomány*, 8(9), pp.5-18.

Roberts, P. (1967). *Modern grammar*. New York: Harcourt, Brace and World, Inc.

Rosenhouse, J. (1988). Occurrence of the Passive in Different Types of Text in English, Hebrew and Arabic. *Babel Revue Internationale de la Traduction / International Journal of Translation*, 34(2), pp.90–103.

- Roth, I. (2010). Explore the Influence of French on English. *Inner Vate: Leading Undergraduate Work in English Studies*, [online] 3(-). Available at: <https://www.nottingham.ac.uk/English/documents/innervate/10-11/1011rothhistoryofEnglish.pdf> (Accessed: 24 February 2022).
- Rouchdy, A. (2013). *Language Contact and Language Conflict in Arabic*. Hoboken: Taylor and Francis.
- Ryding, K. (2005). *A Reference Grammar of Modern Standard Arabic*. Cambridge: Cambridge University Press.
- Ryding, K. (2014). *Arabic: A Linguistic Introduction*. Cambridge and New York: Cambridge University Press.
- Saad, G. (1982). *Transitivity, Causation, and Passivisation: A Semantic-Syntactic Study of the Verb in Classical Arabic*. London: Kegan Paul International Ltd.
- Saad, M. et al. (2013). Extracting Comparable Articles from Wikipedia and Measuring their Comparabilities. *Procedia – Social and Behavioral Sciences*, 95, pp.40–47.
- Sabbah, S. (2015). Is Standard Arabic Dying? *Arab World English Journal*, [online] 6(2). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2834376 (Accessed: 24 October 2017).
- Sadiq, S. (2010). *A Comparative Study of Four English Translations of Sûrat Ad-Dukhân on the Semantic Level*. Cambridge: Cambridge Scholars Publishing.
- Samy, D. and González-Ledesma, A. (2008). Pragmatic Annotation of Discourse Markers in a Multilingual Parallel Corpus (Arabic-Spanish-English). In: *Proceedings of the International Conference on Language Resources and Evaluation, LREC*.
- Sankoff, G. (2005). Linguistic Outcomes of Language Contact. In: *Handbook of Sociolinguistics*. Oxford: Blackwell.
- Sano, H. (2002). The World Lingua Franca of Science. *English Today*, 18(4).

- Sartori, M. (2011). For a relational Approach to Modern Literary Arabic Conditional Clauses (Pour une approche relationnelle de la conditionnelle en arabe littéraire moderne). *Arabica*, 57, pp.68-98.
- Schulz, E. et al. (2000). *Standard Arabic: An Elementary-Intermediate Course*. Cambridge: Cambridge University Press.
- Shah, M. (2008). The Arabic Language. In: *The Islamic World*. [online] London: Routledge. Available at: <https://eprints.soas.ac.uk/5814/1/Shah.pdf> (Accessed: 24 October 2017).
- Shakib, M. (2011). The Influence of Persian Language and Literature on Arab Culture. *International Journal of Educational Research and Technology*, 2(2).
- Siewierska, A. (2005). Passive Constructions. In: *World Atlas of Language Structure*. Oxford: Oxford University Press.
- Sin-wai, C. (2004). *A Dictionary of Translation Technology*. Hong Kong: The Chinese University Press.
- Smith, A. (2007). From Arabic to English. *Saudi Aramco World Journal*, [online] 58(2). Available at: <http://archive.aramcoworld.com/issue/200702/from.Arabic.to.English.htm> (Accessed: 24 October 2017).
- Smith, J. et al. (2010). Extracting Parallel Sentences from Comparable Corpora using Document Level Alignment. In: *Human Language Technologies: The 2010 Annual Conference of the North American Chapter of the ACL*. pp.403–411.
- Suleiman, S. (1998). The Interaction between the Passive Transformation and Other Transformations in English and Arabic. *Contrastive Linguistics*, 34.
- Svartvik, J. (1966). *On Voice in the English Verb*. The Hague and Paris: Mouton.
- Tabasi, A. (2014). Effect of Arabic Language and Grammar on Persian Language and Grammar. *Research Journal of Recent Sciences*, [online] 3(8), pp.125–129. Available at: <http://www.isca.in/rjrs/archive/v3/i8/19.ISCA-RJRS-2014-200.pdf> (Accessed: 24 October 2017).

- Thanh, N. (2015). The Differences Between Spoken and Written Grammar in English, in Comparison with Vietnamese. *Gist Education and Learning Research Journal*, [online] 11, pp.138–153. Available at: <http://files.eric.ed.gov/fulltext/EJ1084418.pdf> (Accessed: 24 October 2017).
- Thatcher, R. et al. (1942). *Arabic Grammar of the Written Language*. London: Percy Lund, Humphries.
- Thawabteh, M. (2011). The Other Side of the Coin of Lexical Borrowing from Arabic into English. *A Journal of Translation and Cultural Studies*, 1(7), pp.103–122.
- Thomason, S. (2001). *Language Contact: An Introduction*. Edinburgh: Edinburgh University Press.
- Thomason, S. (2006). Language Change and Language Contact. In: *Encyclopaedia of Language and Linguistics*. Oxford: Elsevier, pp.41–62.
- Thompson, A. and Begum, R. (2005). *A Study of First Generation Asian Migrants in Greater Manchester*. Institute for Public Policy Research.
- Trammell, M. (1981). Enlightened Use of Passive Voice in Technical Writing. In: *NASA Langley Research Center Tech. Commun., Pt. 1*.
- Treptow, B. (2012). *The Passive Voice: A Comparison between English and German*. Berlin: Humboldt-University of Berlin.
- Tsai, N. (2007). *Language Change Through Language Contact in Computer-Mediated Communication in Taiwan*. [online] Available at: <https://core.ac.uk/download/pdf/277651.pdf> (Accessed: 24 October 2017).
- Tymoczko, M. (1998). Computerized Corpora and the Future of Translation Studies. *Meta*, 43(4), pp.652–660.
- Varga, D. et al. (2011). English Loanwords in French and Italian Daily Newspapers. *Studia Romanica et Anglica Zagradiensia: Revue publiée par les Sections romane, italienne et anglaise de la Faculté des Lettres de l'Université de Zagreb*, [online] 56, pp.71–84. Available at: <https://hrcak.srce.hr/101802> (Accessed: 24 October 2017).

- Verma, H. (2015). Impact of English on Punjabi Lexicon: An Analytical Study. *International Journal of English Language, Literature and Translation Studies*, 3(2).
- Versteegh, K. (2001). Linguistic Contacts between Arabic and Other Languages. *Arabica*, 48(4).
- Wang, L. (1945). *Zhongguo Yufa Lilun (Principles of Chinese Grammar)*. Chongqing: Shangwu Yinshuguan.
- Wang, W. and Sun, C. (2015). *The Oxford Handbook of Chinese Linguistics*. [online] Oxford: Oxford University Press. Available at: https://archive.org/stream/TheOxfordHandbookOfChineseLinguistics/The%20Oxford%20Handbook%20of%20Chinese%20Linguistics_djvu.txt (Accessed: 24 October 2017).
- Wardhaugh, R. (1995a). *Understanding English Grammar: A Linguistic Approach. [Hauptbd.]*. Oxford: Blackwell.
- Wardhaugh, R. (1995b). *Instructor's Manual to Accompany Understanding English Grammar*. Oxford: Blackwell.
- Widya, W. and Ayu, D. (2016). Translation of Passive Voice Found in the Novel *The Sea of Monster* By Rick Riordan and its Translation By Nuraini Mastura. *Lingua Cultura*, 9(2), pp.126–131.
- Willis, D. (1991). *Collins Cobuild Student's Grammar*. London: Harpercollins.
- Wright, W. (1996). *A Grammar of the Arabic Language*. Cambridge: Cambridge University Press.
- Wynne, M. (2005). *Developing Linguistic Corpora: A Guide to Good Practice*. Oxford: Oxbow Books.
- Xia, Y. (2014). *Normalization in Translation: Corpus-based Diachronic Research into Twentieth-Century English-Chinese Fictional Translation*. Cambridge: Cambridge Scholars Press.

Xiao, R. and Dai, G. (2014). Lexical and Grammatical Properties of Translational Chinese: Translation Universal Hypotheses Reevaluated from the Chinese Perspective. *Corpus Linguistics and Linguistic Theory*, 10(1).

Yushmanov, N. (1961). *The Structure of the Arabic Language. Translated from the Russian by Moshe Perlmann*. Washington D.C: Washington Center for Applied Linguistics of the Modern Language Association of America.

Zanettin, F. (2012). *Translation-Driven Corpora*. Manchester: St. Jerome Publishing.

Zuccotti, C. and Platt, L. (2016). Does Neighbourhood Ethnic Concentration in Early Life Affect Subsequent Labour Market Outcomes? A Study across Ethnic Groups in England and Wales. *Population, Space and Place*, 23.